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# **SURVEYING UNIVERSITY STUDENTS FOR EFFECTIVE ENVIRONMENTAL COMMUNICATION ON CAMPUS**

A case study in South-Eastern Finland

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## ABSTRACT

The aim of this thesis was to investigate what communication method would be most effective for higher education institutions to use in informing their students of environmental information and encouraging pro-environmental behaviours on campus in order to improve campus's environmental sustainability. The thesis emphasized the importance of understanding the target audience when designing an effective communication project and adjusting to use communication methods which appeal to each respective target audience.

A survey was used to investigate in this thesis to better understand the target audience of the environmental communication and to investigate their preferred communication method for tailoring future environmental communication projects. Students of higher education institutions were the target audience to be studied in this thesis and students of South-Eastern Finland University of Applied Sciences (Xamk) were used as the sample for the survey.

142 students responded to the survey and data was gathered on respondents' general personal information, environmental attitude, and preferences for environmental communication method. The results particularly provided insights on the relationship between levels of interest in environmental issues and a variety of factors influencing the performance of pro-environmental behaviours. However, further research is still needed in verifying the effectiveness of tailoring an environmental communication based on the results of this thesis.

**Keywords:** communication, sustainability, environmental communication, student, higher education institution

## CONTENTS

1	INTRODUCTION .....	1
2	SUSTAINABILITY AND COMMUNICATION .....	2
3	PRINCIPLES OF COMMUNICATION .....	3
3.1	Effective communications and barriers .....	6
3.2	Culture in communication .....	11
3.3	Tailoring message .....	13
4	GREENWASHING .....	14
5	BEHAVIOURAL AND MOTIVATION THEORIES .....	15
6	HIGHER EDUCATION INSTITUTIONS AND COMMUNICATION .....	16
6.1	Campus sustainability .....	18
6.2	Case studies in education institution communication.....	19
7	RESEARCH METHODOLOGY .....	19
8	KEY RESULTS AND ANALYSIS .....	22
9	LIMITATION OF THE STUDY .....	37
10	DEVELOPMENT SUGGESTIONS FOR COMMISSIONER .....	39
11	SUGGESTIONS FOR FURTHER RESEARCH AND DEVELOPMENT .....	42
12	CONCLUSIONS .....	43
	REFERENCES .....	45

### LIST OF FIGURES

### LIST OF TABLES

### APPENDICES

Appendix 1. List of survey questions

Appendix 2. List of tables

## 1 INTRODUCTION

Environmental sustainability is a matter of increasing importance for society in the face of global climate change. A matter which if handled with negligence could cause devastating ramifications to society's development and well-being as a whole. (Abdel-Hadi et al. 2010, 3-5.) However, environmental sustainability is a complex subject with many intertwining elements. It is this complexity and scale of the matter which has rendered relaying information regarding the subject to relevant parties, especially those without a background in the scientific field, very difficult. The lack of information leads to a lack of awareness and knowledge which then hinders actions meant to better the environmental sustainability situation. Thus, it can be said that the discipline of communication has importance in contributing to environmental sustainability through effectively bringing information to the intended audience and persuading them into taking suitable actions. (Ottosson & Parment 2015, 9; Merkel et al. 2020.)

All sectors of society should take part in tackling environmental sustainability issues, even higher education institutions. Based on the idea that with appropriate communication measures, environmental information may be conveyed and pro-environmental behaviours may be encouraged, this thesis aims to investigate what communication method would be most effective for higher education institutions to use in informing their students of environmental information and encouraging pro-environmental behaviours on campus to improve the campus's environmental sustainability. When planning a communication project, it is important that the planner understands their target audience and is able to adjust to their audience as each group of audience is different from one another. For this reason, this thesis chooses to investigate effective communication methods through surveying students of a higher education institution and gather information on their preferred communication method which may be used to tailor future environmental communication project for the target audience. Students are the target audience to be studied in this thesis because one major population of a higher education institution are students. It is vital to have their cooperation in order to improve campus' environmental sustainability. At the same time, this thesis will observe how the

distinct characteristics of a higher education institution may come into play when planning an environmental communication project for its students.

## **2 SUSTAINABILITY AND COMMUNICATION**

The International Environmental Communication Association (2016) describes environmental communication in its simplest form as “communication about environmental affairs.” This category of communication can happen between all manners of people at all levels and incorporates knowledge from various fields together to function. Summarised in this section and to be expanded on later in this thesis, communication is the exchange of information between the sender and the recipient (Djordjevic & Cotton 2011; Kim et al. 2018). People communicate to initiate a desired results from others whether through informing, persuading, negotiating, fighting, or other techniques. Through communication, people form their perspectives of the world. Therefore it can be said that communication influences people greatly which could be channeled to avert environmental problems. (IECA 2016.)

No matter the sector, whether they are companies, consumers, organisations in the public sector, or organisations of civil society, it is in their favour to contribute to sustainability development else face the ramifications. This is especially true for the operations of big companies and organisations. (Ottosson & Parment 2015, 9.) The importance of quality collaboration between each sector cannot be overstated in order to achieve positive results for environmental sustainability. The same could be said about concepts and methods. A combination of different disciplines should be relied on rather than relying on a single disciplinary. (Abdel-Hadi et al. 2010, 3-5.)

The Brundtland Commission’s original definition of sustainable development is “development that meets the needs of the present without compromising the ability of the future generations to meet their own needs” (WCED 1987). There are commonly three pillars to sustainable development; economic responsibility, environmental responsibility, and social responsibility. All three pillars interact with each other to make the other pillars achievable and not one should be

neglected. The pillar of environmental responsibility in particular emphasizes that economic growth cannot occur at the expense of our nature, environment, and ecology. It is noted, however, that the definition of sustainable development coined by The Brundtland Commission is vague and does not describe the requisite actions explicitly or in details. The definition merely provides the present generation a guideline to show considerations to future generations. Each party working towards environmental sustainability has to interpret the definition and figure out what actions to take in their own ways. (Abdel-Hadi et al. 2010, 14; Ottosson & Parment 2015, 13-16.)

The primary method for motivating people to change their behaviours and perform more pro-environmental behaviours has been to communicate information that will persuade them to alter their behaviours. The information is usually about various ecological threats hoping to give people reasons to take preventive actions. This fear- and anxiety-based information is given on the assumption that people will not want to experience the stated unwanted outcome and thus take actions to reduce the likelihood of that outcome happening. Yet it is shown that even awareness of the environmental issues does not necessarily signify willingness to adopt pro-environmental actions. There is a gap between an individual's values and their behaviours. Another major problem which environmental communication must contend with is that while the communication may produce positive results of motivating people to act sustainably at first, the positive effects usually decline over time and return to the original baseline. It is challenging to keep people performing pro-environmental behaviours long-term. (Pelletier & Sharp 2008; Ottosson & Parment 2015, 52.)

### **3 PRINCIPLES OF COMMUNICATION**

Communication is an important aspect of human activities. Interpersonal relationships and groups are held together by communication to function properly. Anything that can affect a human's behaviour may also complicate communication. From the many purposed definitions, communication at its basis can be said to "involve the exchange of thought between two parties." The source or sender initiates the process of communication by sending out a message to

the receiver. The message goes through a process called encoding where the ideas of the sender are put into symbols, such as words or body language, as stand-ins for the idea. The receiver of the message, if the message did reach the receiver, will interpret and respond to the message. The process of interpreting the symbols of the message is called decoding. Communication can be interactive and multi-directional. Thus the receiver may give feedback as a response back to the sender of the message and influence them in turn. For the receiver to understand the message and respond as intended by the sender, both sides must have mutual understanding of the symbols used otherwise there can be miscommunication. (Rai & Rai 2009, 3.)

According to Rai and Rai (2009, 1-2), communication has four attributes. First, communication is intentional and unintentional. What one wants to say may not come out as one intended. An unintentional receiver may receive a message on accident. Every aspect of one's behaviour can convey a message. Even what is excluded from the communication will convey something. Second, communication is a dynamic process. It grows and develops. Even if the same two people exchange the same idea again, the communication will not be the same as the previous time due to how the two people have changed since then and had brought new experience to the communication. As different experiences clash, there can be unexpected responses and misinterpretations in each communication attempt. Third, communication is systemic. Every component of the communication process is affected by every other component. Everything from the audience's attentiveness, the context, the medium, or the feedback, can affect another component. If a wrong medium is chosen, a particular message may fail to have the intended result. Disturbances at any stage in the communication process will affect the entire process. Fourth and lastly, communication is both an interaction and a transaction. The sender and receiver exchange thoughts and influence each other in the process.

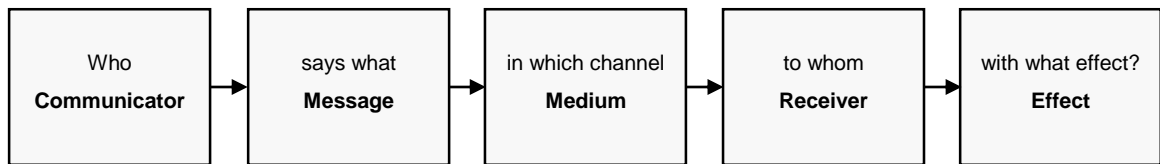


Figure 1. Lasswell's model of communication

The overview of the basics of communication process is illustrated by the classic Lasswell's (1948) model of communication as shown in Figure 1. Shannon & Weaver's (1948) model of communication in Figure 2 builds upon the former model and shows a more expanded view of communication process. (Ottosson & Parment 2015, 116.)

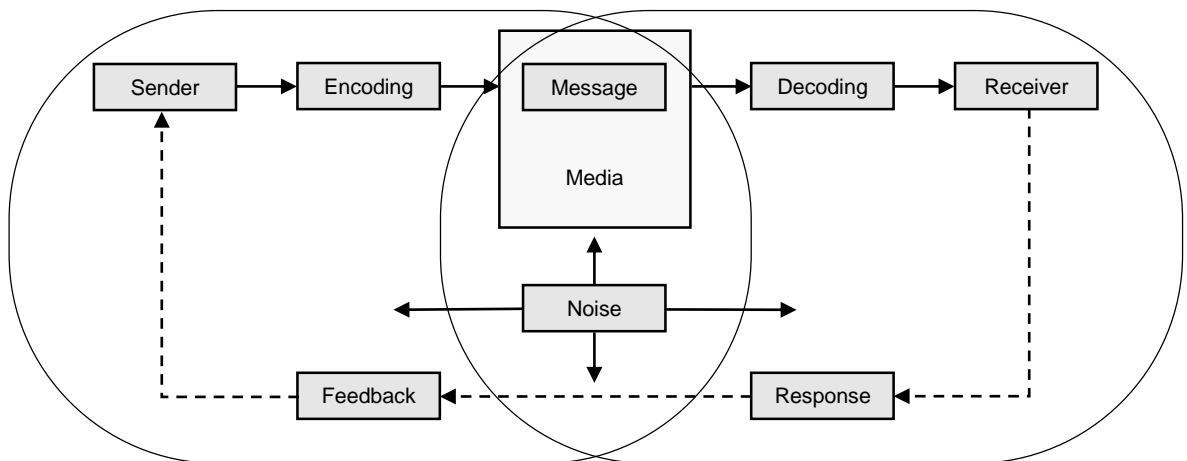


Figure 2. Shannon & Weaver's model of communication

Shannon & Weaver's communication model shows the following elements: (a) source, the person sending the message; (b) sender, channel through which the message is sent; (c) receiver, channel through which the message is received; (d) destination, the person receiving the message; (e) sent signal, messages as it looks when being sent; (f) received signal, messages as it looks when being received and; (g) noise, disturbances including disturbances other than noise. (Ottosson & Parment 2015, 116.)

Again, the Lasswell's model and Shannon & Weaver's model of communication show the basics of the communication process when it is linear and one-way which is not always the case in reality. As mentioned previously, both models do not show for example, the complex interactivity between elements for



interpersonal communication and how the receiver can be as active as the sender as well as influencing the sender in return. (Ottosson & Parment 2015, 117.) Elements which may affect the communication process will be expanded on in later sections of the thesis.

### **3.1 Effective communications and barriers**

Communication which is done intentionally will have a purpose. A communication is effective when it is able to achieve the intended purpose of the sender of the message. Hence the making of communication starts with the sender possessing a clear purpose for their communication. (Rai & Rai 2009, 3.) To be considered effective for the communication of information, people need to attend to the message and be impacted on how they think about the topic of the communication. For persuasive communication, people should change their behaviours afterwards. (Petty & Wagener, 1998; Pelletier & Sharp 2008.) After setting a purpose for the communication, the sender should have an intended audience in their mind for the communication. The sender must convey the message in a way that can be understood by the intended audience which is why they then must choose the suitable communication method for their purpose. (Rai & Rai 2009, 3.) If there are obstructing factors then the communication could be rendered ineffective at achieving the desired results (Kim et al. 2018). Even if communication could be interfered with and obstructed, communication should still be initiated as the first step (Djordjevic & Cotton 2011).

#### **Encoding and decoding**

For the communication to be effective, the sender's encoding process should match that of the receiver's decoding process as closely as possible. That is, the symbols used should be interpreted similarly between the communicants. Each receiver brings their own personal luggage to each interaction such as their unique needs, values, attitudes, goals, aspirations, styles, education, cultures, physicalities, emotional abilities, life history, and present life circumstance. All these elements factored in whenever the receiver decodes a message from the sender. The more the communicants have in common regarding their

experiences, the more likely it is for the message to be interpreted correctly and be effective. (Rai & Rai 2009, 3; Djordjevic & Cotton 2011; Ottosson & Parment 2015, 116-117; Ruben et al. 2016, 118-119.)

### **Persuasiveness**

Persuasion relies on information to make the best arguments and also emotions to win over and convince others. The logic presented must be reasonable and show how the audience will benefit by accepting the proposed ideas, views, or actions. Three types of needs can be emotionally appealed to, physical needs, social needs, and ego needs. The identity of the messenger is greatly important as well. A message is more persuasive when conveyed by a credible messenger who is of respected and accepted personal character and reputation such as experts in a field. For emotional products such as clothes, celebrities, and other individuals who are well-liked by the public can also be suitable messengers. Choosing the wrong messenger can badly harm the organisation's image. In the case of environmental communication, the messenger should be someone who live sustainably to match the message. Otherwise they will be seen as dislikable and unconvincing. (Rai & Rai 2009, 8-9; Ottosson & Parment 2015, 119-120.)

### **Consistency and redundancy**

A single message seldom gives the desired outcome. The AIDA model as described by Ottosson & Parment (2015, 118) states that "ideally a message should create attention, interest, and the desire to do whatever the goal is as well as lead to action." Not many messages will meet these criteria due to the many possible 'noises' obstructing the communication. Consequently, multiple messages usually must be made for different occasions to altogether comply with the AIDA model. Consistency and redundancy in sending messages will help correct the distortions made by 'noises' at each moment that a receiver receives their message. This makes communication an ongoing process which takes time to shape the sensibilities and responses of the receiver to be as desired. (Ottosson & Parment 2015, 117-119; Ruben et al. 2016, 118-119.) Even so,

despite redundancy being an important part of sending messages, presently, people are receiving great amount of messages every day and it is becoming more difficult for a message to hit home. The sender must devise more meaningful, interesting, useful, creative, and entertaining communication strategies to grab the target audience's attention. Especially when the typical audience frequently finds environmental communication boring. (Ottosson & Parment 2015, 122-124.)

### **Channels and mediums**

When choosing the medium, one has to consider factors like urgency, availability, effectiveness, and relationship between the communicants (Rai & Rai 2009, 3). Organisations used to communicate information to their audience through traditional channels such as TV, newspaper, magazines, and other mass media channels. Currently, audience has the option as well to receive information from modern communication channels such as internet search results, social media, and online advertisements. Even if traditional channels continue to be important and have their uses, their dominance is decreasing. Some say traditional channels will be completely replaced and some say traditional and modern channels will exist together. The positive of traditional channel such as newspaper and TV is that they give more focus or honest experience while websites are full of advertisements or 'noise' that can turn the audience's attention away from the message. On the other hand, the positive of websites is that the experience could be tailored to the receiver right on the platform depending on what they do. (Ottosson & Parment 2015, 123-124.)

### **Feedback**

Whether a communication has fulfilled its intended purpose can be checked from the receiver's response. The response or the return message from the receiver to the sender's communication is called a feedback. A feedback can be used to adjust the communication to be more effective. In a way, a receiver can influence a sender through their feedback. (Rai & Rai 2009, 4.) An organisation should

consider creating a grassroots communication channel such as meeting places or forums for their audience to give feedback. Organisations that only offer information through traditional channels and avoid grassroots channels will seem too controlling. Grassroot driven communication can inspire loyalty and give a sense of credibility due to being independent of the organisation and the image that the organisation want to project. (Ottosson & Parment 2015, 123-124.)

Despite the benefits, asking for feedback should be moderate. A tendency to ask for extraneous feedback from the audience could create too much extra work for the audience. Asking too much could give off the impression of being anxious and it is not worth the further limited information being given. (Ottosson & Parment 2015, 131.) In the case of grassroots communication, there is an issue of how the most dissatisfied and most satisfied audience are those who generally share their experience. Not every opinion will be applicable to the organisation and the organisation must pick which input from the audience to listen to. Some input may be negative or abusive which the organisation would want to curate to maintain image. Although at the same time, organisations should be aware that opinions could not simply be censored. Dissatisfaction may build among the audience if their opinions were given but not heard. Presently, there is an increased in interactivity and organisations should not only ask themselves how to reach their audience but also how the audience will reach them. (ibid. 124-127.)

### **Standardisation and local adaption**

For marketing communication and sustainable marketing in general, it has always been an issue to what extent to adapt to the local market. There is a question of how to balance the principles used in standardise global marketing which are used in all markets and locally-adapted marketing which is adapting marketing and communication strategies to each individual market. Standardised marketing became more applicable for use from the increased in travel, globalisation, and new technology which make preferences more similar to each other in various countries. However, many differences still remain between cultures. A strategy

considered innovative in one culture may seem like greenwashing in another culture. The local aspect should especially be considered in regards to sustainability development because sustainability support the idea of supporting local supply of ideas, raw materials, staff strategies, and others. So communication should, to some extent, consider the local culture. (Ottosson & Parment 2015, 128-130.)

### **Context and external factors**

Communication takes place in a context, the situation, place, time, and circumstance of each communicant (Rai & Rai 2009, 3; Ottosson & Parment 2015, 117; Ruben et al. 2016, 118-119). External factors other than the communication method itself could interfere with the message delivery such as living conditions and social norms. One example is the life situation of an older student. To be sustainable and not drive a car would take too much time out of their busy day. The inconvenience adds on to the already accumulated stress. (Djordjevic & Cotton 2011; Godfrey & Feng 2017; Lertpratchya et al. 2017.) Understanding the situation and giving support within the context is more successful than forcing a change. Factors which inconvenienced behavioural change have to be removed and desired behaviours should be rewarded, which is why environmental communication need the structural and institutional support. (Djordjevic & Cotton 2011.) Organisations cannot separate their operational activities from their environmental communication. All parts of the organisation's operations must align with their sustainable strategies. (Franz-Balsen & Heinrichs 2007; Djordjevic & Cotton 2011; Ottosson & Parment 2015, 22.)

Whichever way the communication is done, all the various ways in which an individual receive a message as a whole will affect how the message influence the receiver. Which is why information from all channels must consistently work in conjunction towards the set goals. If there are contradictions, the receivers will get confused about the real message. This not only applies to the message sent out by the organisation but also the information outsiders give which could

influence the receiver on how they think about the organisation. (Ottosson & Parment 2015, 22.)

### **3.2 Culture in communication**

Business sectors sometimes emphasize the importance of taking the culture of the audience they are sending their message to into consideration in order for their message to be better received and interpreted as intended. Ralph Linton (cited in Usunier & Lee 2009, 3-4) defined culture as “the configuration of learned behaviour and results of behaviour whose component elements are shared and transmitted by the members of a particular society.” While one might expect an individual to conform to their culture, Linton pointed out that there are limits on how much a culture can shape a person. Even if an individual is conditioned by their environment, they are still a distinct individual with their own distinct thoughts, feelings, and actions.

On the other hand, Ward H. Goodenough (cited in Usunier & Lee 2009, 4) defined culture as “a set of belief or standards, shared by a group of people, which help the individual decide what is, what can be, how to feel, what to do and how to go about doing it...Cultures may be said to be activities shared by a particular group of people.” Goodenough suggests the concept of operational culture which assumes that “the individual can choose the culture in which to interact at any given moment or in any given situation, subject to the overriding condition that the culture has been correctly internalised from past experiences.” In other words, individuals will adapt according to the environment that they are in at the moment to be able to function in that environment despite what their previous environment had conditioned into them previously.

Culture is frequently linked to nationality. Upon further inspection, the relationship between the two become more obscure. Even within the same country, different provinces could have different cultures or dialects which may not come across as intended to residents of a different province even though they are of the same country. Additionally, many countries of the present day can also be said to be multi-cultural, home to citizens who brought their own cultures and maintain them

in their new home country. Culture is nuanced. At best, culture corresponds to linguistic, ethnic, religious, or organisational entities than to nation states. Studies done after World War in an attempt to analyse the nature of people of different countries, showed no clear results proving the existing of national character. (Usunier & Lee 2009, 7-10.)

Distinct characteristics will result in a distinct culture and behavioural patterns unique to the organisation. The culture of the organisation affects how its inhabitants conduct themselves and the suitable method in which an individual attempting to change the culture of the organisation should use. Culture is stable and naturally resists change thus any attempt to change a culture will be difficult and effort-consuming. It can be said that often times, the individual attempting to change an organisation's culture will be required to play into the culture that they are attempting to change and so their behaviours are guided by the institution's culture rather a change being forced solely upon the latter and not the former as well. Thus to effectively change the culture, the individual must observe and understand the culture of the organisation that they are working with to find an approach which fit the culture of the organisation. However, there is also a concept call organisational climate which is "the feeling that is conveyed in a group by the physical layout and the way in which members of the organisation interact with each other, with customers, or with outsiders." (Ruben et al. 2016, 71) That is, within the culture of an organisation which is said to be stable, the atmosphere within that culture change from period to period for details on a minutia level. Which is why studying the culture should be done periodically on a case by case basis. (ibid. 67-71.)

It is suggested that culture serve as the last explanation when all other explanations are unsuccessful. Selma Lageröf (cited in Usunier & Lee 2009, 16) defined two elements of cultural dynamics at the individual level which are "culture is learned and culture is forgotten, in the sense that we cease to be conscious of its existence as a learned behaviour... Yet culture remains present throughout our daily activities."

### 3.3 Tailoring message

A communication plan must consider the recipients or the target audience (Djordjevic & Cotton 2011). An attempt to communicate without understanding the audience could lead to a negative result or a less favourable attitude (Godfrey & Feng 2017). The target audience's attitudes, beliefs, and behaviours have to be researched beforehand (Franz-Balsen & Heinrichs 2007; Djordjevic & Cotton 2011). Due to how each individual is different from one another, one type of message could be effective for some people while being ineffective for other people, some propose that communication should be tailored and the messages framed for the specific target audience. Only then would the communication be effective in affecting behaviours and shaping how people construct their behaviours. (Pelletier & Sharp 2008; Djordjevic & Cotton 2011; Ottosson & Parment 2015, 126; Godfrey & Feng 2017; Lertpratchya et al. 2017; Kim et al. 2018.)

A school environment, for example, would have students with a wide range of backgrounds and attitudes (Godfrey & Feng 2017; Lertpratchya et al. 2017). This makes appealing to the whole student body at once complicated. In this case, strategies from social marketing could be used in which the target audience is analyzed and segmented. (Djordjevic & Cotton 2011.) Give the campus residents a voice and listen to them (Franz-Balsen & Heinrichs 2007).

On the other hand, the method of division and categorisation of audience has points to be criticised. While segmenting audience is important in the field of marketing, the representation of gender, ethnicity, and multiplicity has been problematic in previous studies where for example men, women, and ethnicity were represented in a stereotypical way. Yet, there are also articles on how marketers can make ethnicity a competitive force such as communicating in Spanish to Hispanics in the US market place. (Ottosson & Parment 2015, 24-25.)



#### 4 GREENWASHING

Multiple organisations are regularly accused of greenwashing their sustainability communication whether on accident due to being over enthusiastic or on purpose (Ottosson & Parment 2015, 122-124). Greenwashing is “exaggerating sustainability claims or using marketing communication to make products and services appear more sustainable than they truly are” (Martin & Schouten 2012, 195). It is a display of superficial and insincere concern for the environment (McEachern & Carrigan 2014, 228). The act of greenwashing greatly damages an organisation’s image and credibility. They will be criticised from regulators, environmentalists, the media, consumers, competitors, and the scientific community. (Martin & Schouten 2012, 195.)

Greenwashing is frequently a marketing ploy attempt to make profits at the consumer’s expense and so consumers especially will become disillusioned and skeptical of the organisations onwards if greenwashing was done. (Martin & Schouten 2012, 195; McEachern & Carrigan 2014, 228.) Greenwash helps explain why some individuals are against green policies. Anti-green individuals see green products and services as more expensive, less effective, and aimed at a small niche of green consumers. (McEachern & Carrigan 2014, 228.)

TerraChoice publishes “The Seven Sins of Greenwashing” (2007, cited in Martin & Schouten 2012, 195) to describe the different ways in which an organisation may greenwash itself.

1. Sin of the Hidden Trade-Off: Suggesting a product is “green” based on selective attributes ignoring other important environmental issues (e.g., “energy efficient” products containing hazardous materials)
2. Sin of No Proof: Making a claim that can’t be substantiated by reputable and easily accessible sources (e.g., products labeled “organic” with no verifiable certification).
3. Sin of Vagueness: Making broad, ambiguous claims that are likely to be misunderstood by consumers (e.g., “All-natural” products that contain naturally occurring substances, like heavy metals, that also happen to be toxic).
4. Sin of Worshipping False Labels: Giving the impression, through words or images, of third-party endorsement where no such

- endorsement exists (e.g., a label bearing a green-leaf image and mention of a standard that is made up by and unique to the firm).
5. Sin of Irrelevance: Making claims that are truthful but meaningless (e.g., claiming “CFC-free” even though CFCs have been banned for 20 years).
  6. Sin of Lesser of Two Evils: Making a claim that’s true but that avoids or distracts from a much more serious issue (e.g., organic cigarettes).
  7. Sin of Fibbing: Making claims that are false; gaining eco-certification under false pretenses (e.g., rigging tests to get unearned Energy Star ratings).

While not all sustainable communication is sincere and truly substantial, people still have the means to detect true sustainable option to support. Information given to people used to be filtered and fed by an organisation but with the rise of the internet, people may search on their own for information uncontrolled by the organisation. People have the opportunities to compare their experiences and measure the transparency of an organisation with other alternatives.

Organisations now should be aware that they will not easily get away with flimsy green marketing. (Ottoosson & Parment 2015, 122-124.)

## **5 BEHAVIOURAL AND MOTIVATION THEORIES**

According to the Theory of Planned Behaviours, people engage in a behaviour depending on three factors. First, a more positive attitude towards the behaviours will mean more engagement in the behaviour. Second, the relevant subject norm which is the perceived social pressures to engage in the behaviour. If others disapprove of the behaviour, one would not want to engage in the behaviour whether the perception is real or not. Third, their perceived behavioural control which is the perception of difficulty in performing the behaviour and the difference the behaviour would make. A behaviour requiring less effort and a behaviour with bigger results will receive more engagement. (Godfrey & Feng 2017; Lertpratchya et al. 2017.) Motivation could be helped by providing personal or community goals while providing feedback on whether the behaviour works (Djordjevic & Cotton 2011).

Research support three stages of changes; a detection phase, a decision phase, and an implementation phase. In the detection phase, people will gather and

interpret information to determine whether there is a problem. People are more sensitive to messages that will help them do so. Once people detect a problem deemed important, they move to the decision phase where they decide whether to take action and what action to take. After they have decided to act, people become more sensitive to messages that provide them with information about how to implement a behaviour, and possibly how they can maintain the behaviour or integrate it in their lifestyle. (Pelletier & Sharp 2008.) People who already have their own strong opinions, have little interest, lack awareness, or have little involvement in the topic of concern would be resistant to change (Franz-Balsen & Heinrichs 2007; Djordjevic & Cotton 2011).

Increased in awareness of environmental topic does not necessary lead to positive actions. There is mixed evidence on whether receiving new information lead to changes in attitude or behaviours. (Djordjevic & Cotton 2011; Kim et al. 2018.) By believing that receiving information would lead an individual to make a conscious change would mean actions follow consciously formed beliefs. In this case, the influencing would then need not be done subtlety and should be done openly. (Godfrey & Feng 2017.)

## **6 HIGHER EDUCATION INSTITUTIONS AND COMMUNICATION**

A school is a place of notable influence on an individual. Schooling affects children's educational achievement, literacy, numeracy, and scientific knowledge. At the same time, it can also influence children's social cognitions and feelings. The indirect influence in children will be carried beyond the school's environment. The long term benefits are the children's attitude towards themselves, other people, and given tasks. Depending on the schooling, the results can either be positive or negative. (Sylva 1994.)

An education institution as an organization has its own characteristics distinct from other organisations or groups such as a family unit, a business company, or the general public. The differences come in the form of architectural structures, daily operations, and residential inhabitants among others. (Kim et al. 2018.) For an education institution, its major characteristics are that it is a place of

education. Its main residents are teachers and students who are placed in the role of guiding authority and learners respectively. An education institution is where students spend the majority of their time second to their time at home. A majority of time which is spent at an age where they are developing their identities. So education institutions have great influence on their students. (Lertpratchya et al. 2017.) This circumstance thus warrants its own field of communication study of how the unique school environment could be used as part of communication plan.

Even if a general impression of higher education institutions' culture could be mapped, the inhabitants within the institution still comprised of varied subgroups with different cultural perspectives, priorities, and interpretations. On a general level, elements of a traditional academic culture can be said to include: (a) freedom of expression; (b) creating, advancing, and imparting knowledge; (c) primarily loyalty to discipline rather than institution; (d) higher education as not business; (e) students as learners not customers; and (f) less emphasis on the importance of the board or state in decision-making. Some of these elements already come into conflict with a subgroup within the institution, the administration, whose culture include (a) operational effectiveness; (b) hierarchical decision-making; (c) efficiency; (d) cost-effectiveness; (e) higher education as business; (f) return on investment; (g) valuing standardisation of processes and procedures; and (h) attuning to the board or state in decision-making. At the same time, these elements are generalisations and not every higher education institution adheres to these cultures. (Ruben et al. 2016, 74-81.)

It can be said that, while it is important to listen to students' feedback while making a change in higher education institutions, students are not necessarily the ones with the actual power or authority to make the change. Instead, it is a group of people such as the faculty and thus those people also have to be taken into consideration in the decision process. Making a change is not about enforcing a point of view but to create a constructive dialogue, making decisions which take into account multiple perspectives, and cultivating support for the change. The act of engaging with others increases the effectiveness of the decision and

increases likelihood that the resulted directions will have tractions and sustainability. Whenever possible, identify and engage with individuals who have a stake in the project which is about to be implemented. (Ruben et al. 2016, 74-81)

Despite all, there is a question whether the nature of a higher education institution is truly distinct from other institutions and only has one set of workable approach. Ruben et al. (2017, 131) comments that while higher education institutions may have their own unique characteristics, they still share some characteristics with other sectors. This might suggests that other than studying techniques used exclusively for higher education institutions, it is possible to also look into communication techniques use in other sectors and see how they might be applied for use in higher education institutions. Whether those are techniques from the business sectors, health sectors, tourisms sectors, or others. Previously, it was mentioned that while higher educations may not be seen as a business for profit, the administration staff who does the actual managing of the institution does. Therefore communication techniques used in business sectors have possible applications in higher education institutions if they share enough similarities.

### **6.1 Campus sustainability**

Achieving campus sustainability will require the contribution of multiple departments which increases the complexity of this objective. Effective communication had been recognized as crucial for achieving sustainability which include finding an effective communication medium. Generally, a school can influence the behaviours of students by means of education, demonstration, research, and practice. The principles of sustainability could be taught both in class or using out of class activities. So other than developing suitable curriculum for used in classes or seminars, additional engagement could include peer-to-peer activities, encouraging leadership, and implementing campus projects and initiatives. (Djordjevic & Cotton 2011; Lertpratchya et al. 2017; Kim et al. 2018.) Human factor is crucial for campus sustainability. Yet at the same time, environmental communication would need the support of structural change.

(Franz-Balsen & Heinrichs 2007.) For example, the architecture or daily operation of the campus had to be changed to support sustainability like the food catering service or utilities control (Kim et al. 2018).

## **6.2 Case studies in education institution communication**

While all communication channels have different characteristics, all increases awareness of environmental topics at some level. Nonetheless, students vastly prefer internet-based communication while graduates and staff prefer news sources. In terms of usage frequency, e-mails are the most used followed by online news, classes, and seminars. These channels outperformed all other channels. (Kim et al. 2018.) The internet is an important communication channel especially a university website (Franz-Balsen & Heinrichs 2007). Electrical mediums allow for flexibility and efficiency. Not using papers is also environmental friendly. (Djordjevic & Cotton 2011.) However, cultivating personal relationship is recommended so face-to-face communication has importance. A face-to-face encounter allows for a two-way communication opening up discussion for diversity. This increases understanding and reduces ambiguities especially for controversial topics. Face-to-face communication conveys honesty and trustworthiness. (Franz-Balsen & Heinrichs 2007; Djordjevic & Cotton 2011.) Both classroom education and other non-traditional activities have shown positive results (Lertpratchya et al. 2017). Campus events can be popular but to a lesser extent than other channels (Franz-Balsen & Heinrichs 2007). In general, communication channels should be used in combination so that all target audience are covered (Djordjevic & Cotton 2011; Kim et al. 2018).

## **7 RESEARCH METHODOLOGY**

The aim of this thesis is to investigate what kind of communication method would be effective for higher education institutions to use in informing their students of environmental information and encouraging pro-environmental behaviours to improve environmental sustainability on campus. In this study, emphasis was put on the importance of understanding the target audience of the message when planning a communication project and the survey method was chosen to collect

data on the sample population for this study. In education institutions, new students transfer in and out periodically meaning the characteristics of the target audience possibly change and may warrant new investigation on the changes periodically. Universities frequently use surveys out of the available methods to collect their students' opinions. The author believed that using a survey in this study would simulate how a university would go about collecting data from their students and flaws in this study could be applied to improve future surveys.

The survey was an online anonymous self-report survey made and conducted through Webropol web service. The sample to be investigated were students of Xamk on all campuses who were chosen as the sample for this study because they were the target audience for the commissioner of this study. The survey was sent out to the students by e-mails and the data collection period was from 23<sup>th</sup> March to 5<sup>th</sup> April 2022 for a total of 14 days. After the collection period ended, the results of the survey were compiled and analysed.

According to Xamk's applicant's guide 2022 (2021), there were 4278, 3093, 2286, and 1214 students at Mikkeli, Kotka, Kouvola, and Savonlinna campus of Xamk respectively. Altogether, Xamk provided a total of 10871 possible participants for this study. The desired response rate was at least sixty percent of the number of possible participants however the actual response rate for the survey may go as low as thirty to forty percent (Punch 2003, 42). For the data to represent other higher education institutions as well, a response rate of more than eighty percent was desired (Fincham 2008). A chance to participate in a prize raffle was included in the survey to increase response rate.

The content of the survey was divided into three parts, questions on general personal information, environmental attitude, and preferences for environmental communication method. Part of the questions on environmental attitude was based on WWF Green Office's measurement survey which Xamk periodically uses on their campus. The original Green Office survey measures behaviours concerning energy saving, paper saving, waste and recycling, travelling, food consumption, and motivating colleagues. The survey of this study narrowed the

countless environmental issues to be concerned about to those measured by the WWF Green Office, a third-party label which Xamk subscribes to, so that the commissioner can focus their limited resources on the environmental sustainability factors they will be audited on before expanding to other environmental issues.

The survey also included questions on barriers to performing pro-environmental behaviours, preferred communication channel, message format and tone of voice, desirable qualities in an environmental activity, prize, participation format, and ability to influence Xamk's communication. The questions considered the scope and resources that a university could provide or would think about when attempting to make an engaging communication project for their students. The survey questions used in this study can be seen in Appendix 1.

With questions which required respondents to rank their answers, the rankings were calculated using Equation 1 (SurveyMonkey n.d.). The higher the average ranking calculated from Equation 1, the higher the overall respondents ranked that answer compared to other answers within the same question. The weight of ranked position was determined depending on the number of options. For example, if the question had five options for the respondent to rank, it meant the options were ranked from ranking 1 to 5 by the respondents with ranking 1 having the most importance. Because of the importance, ranking 1 would have the weight of 5, ranking 2 would have the weight of 4, and ranking 3 would have the weight of 3 and so on.

$$\text{average ranking} = \frac{x_1w_1 + x_2w_2 + x_3w_3 \dots x_nw_n}{\text{Total response count}} \quad (1)$$

where	$x$	weight of ranked position	[-]
	$w$	response count for answer choice	[-]

For written answers to open-ended questions in the survey, they were analysed using a combination of 'microanalysis' (Strauss & Corbin 1998, 57-71, 101-121) and 'coding' method (Silverman 1994, 59; Neuendorf 2002, 172-173). The



answers were read on a line-by-line basis to get the general ideas presented by the answers. 'Themes' were then established based on the aforementioned reading. Answers which shares or have related concepts were classified ('coded') under the same 'theme' appropriate to them. For example, while 'climate change', 'global warming', and 'carbon footprint' have differences in meanings, answers with these topics were determined to express the same concept of 'climate change' as a 'theme' and were classified under the same 'theme' together. Some answers expressed multiple separate concepts in a single answer. In such cases, the answers were classified under as many 'themes' as appropriate. The number of occurrences of answers in each 'theme' was tallied in order to turn the qualitative answers into quantitative data to be used in numerical calculations when needed in the study.

Written answers to open-ended questions that did not meaningfully contribute to the questions were considered as invalid answers. Answers which were considered invalid included blank spaces and irrelevant emoticons and swear words. Even if the written answers may express the same idea as one of the options of a multiple-choice question or correspond more to another question, they were still counted numerically towards the question or the option it was written in. When texts from open-ended questions are referenced in this report, if not quoted, they were paraphrased at the liberty of the author to shorten or better word the texts. Some respondents gave examples of thoughts which possibly could be exclusive to them and thus their answers could possibly be linked back to them. As a result, raw data from open-ended questions were excluded from this report and were instead presented as 'codified' data to maintain confidentiality of the respondents.

## **8 KEY RESULTS AND ANALYSIS**

The survey obtained a total of 142 respondents (Table 1) which is 1.31% of the total student population across all Xamk campuses. This percentage is significantly lower than the desired 60% threshold of credible survey data. The low percentage of response rate indicates a nonresponse bias in this study and the collected data may not correspond to the rest of Xamk's student population.

Table 1. Percentage of gender per age group of respondents

	<18	19-24	25-30	31-36	37-42	>43	Total (n)
Female	50%	53.6%	51.5%	58.6%	69.2%	77.8%	81
Male	50%	42.8%	42.4%	34.5%	15.4%	11.1%	52
Other genders	0	3.6%	6.1%	6.9%	15.4%	11.1%	9
Total (n)	2	56	33	29	13	9	142

Table 1 shows that females comprised 57.1% (81) of the 142 respondents while males comprised 36.6% (52) and other genders comprised 6.3% (9). The three largest age groups within the respondents were the 19-24 years old group (39.4%), 25-30 years old group (23.3%), and the 31-36 years old group (20.4%). Appendix 2 shows the distributions of respondents across Xamk campuses. There was an overwhelming sample of European students (90.9%) compared to other continents therefore analysis was not made regarding the relationship between nationality and environmental communication in this study (Appendix 2). Texts on this relationship mentioned in previous sections favoured not majorly emphasizing nationality in environmental communication however this could not be investigated in this study.

Table 2. Percentage of how many respondents are aware of the Green Office label in Xamk

	Male (n=52)	Female (n=81)	Other (n=9)	Total (n=142)
Yes	23.1% (12)	27.2% (22)	33.3% (3)	26.1% (37)
No	76.9% (40)	72.8% (59)	66.7% (6)	73.9% (105)

Table 2 shows a large portion of the respondents (73.9%) was unaware of the WWF Green Office label implementation in Xamk. There was little difference between each gender in how aware they were of the Green Office label. The Green Office label is a third-party certification indicating that an organisation has a proper audited environmental management system in place which is complied with. It is supposed to signify Xamk's continuous dedication towards maintaining sustainability on campus. Students being unaware of the label, its meaning, and the process involved in achieving it, may factored in how students do not have a proper sense of Xamk's dedication, sincerity, and concrete actions concerning green policies hence becoming sceptical of Xamk's environmental

communication and less receptive of it. This view may apply to students who are already distrustful towards green movements in particular.

Table 3. Percentage of how respondents learned of Xamk's Green Office label

	Male	Female	Other	Total (n=37)
Class lecture	33.3%	9.1%	0	16.2% (6)
Lux	8.3%	45.5%	33.3%	32.5% (12)
Info screen	0	4.5%	33.3%	5.4% (2)
Poster / Pamphlet/ Leaflet	33.3%	9.1%	33.3%	18.9% (7)
Information booth	0	0	0	0 (0)
Event on campus	16.7%	0	0	5.4% (2)
E-mail	0	9.1%	0	5.4% (2)
Student guidebook	0	4.5%	0	2.7% (1)
Green Office Teams group	8.3%	0	0	2.7% (1)
Others (Please specify)	0	18.2%	0	10.8% (4)
Course project	0	25% (1)	0	
Work project	0	25% (1)	0	
Learn: new students' info	0	25% (1)	0	
Kaakko	0	25% (1)	0	

Of those respondents who were aware of the Green Office label (n=37), the major communication channel which they found out about the label from was Lux (32.5%), followed by poster, pamphlet, and leaflet (18.9%), then class lectures (16.2%). Less than 6% of those who were aware of the label found out from other communication channels. Of the channels, almost half of female respondents (45.5%) found out from Lux while a third of male respondents found out from class lectures (33.3%) and another third from poster, pamphlet, and leaflet (33.3%). (Table 3.)

Class lecture as a communication channel suggests that the respondents were forced fed the information to a degree as the lectures likely demanded attention and compulsory participation from the respondents. Nonetheless, Lux, poster, pamphlet, and leaflet being the other major communication channels suggests as well that there is another portion of respondents who still have the disposition to seek out information or pay attention to the information presented in their surroundings by themselves. (Table 3.)

Table 4. Percentage of age groups per level of interest in environmental issues

	1 Not at all interested	2	3	4	5 Very interested	Total
n	3	7	21	49	62	142
Percent	2.1%	4.9%	14.8%	34.5%	43.7%	100%
<18	0	0	0	4.1% (2)	0	2
19-24	0	57.1% (4)	42.8% (9)	38.8% (19)	38.7% (24)	56
25-30	0	28.6% (2)	38.1% (8)	22.4% (11)	19.3% (12)	33
31-36	66.7% (2)	0	4.8% (1)	26.5% (13)	21.0% (13)	29
37-42	33.3% (1)	14.3% (1)	9.5% (2)	4.1% (2)	11.3% (7)	13
>43	0	0	4.8% (1)	4.1% (2)	9.7% (6)	9

Most of the respondents were very interested (43.7%) or somewhat interested (34.5%) in environmental issues. 14.8% of respondents was neutral and a small percentage was not very interested (4.9%) or not at all interested (2.1%) in environmental issues. Overall, a larger portion of respondents in every age group showed interest in environmental issues than being neutral or having little interest to none. The amount of interest shown rather than not suggests that most of the respondents will likely be receptive to environmental communication and willing to engage in pro-environmental behaviours. (Table 4.)

The age group of 19-24 years old was the largest portion of respondents in every level of interest in environmental issues. This could merely be due to this age group having the highest response rate. Except that age group 31-36 years old and age group 37-42 years old comprised 66.7% and 33.3% respectively of those who were not interested at all in environmental issues. If Xamk aim to change the opinion or behaviour of a large group of students at once, 19-24 years old students may be the group to focus on and tailor the communication to. On the other hand, if Xamk aim to increase the level of interest in environmental issues, focus should be put into understanding and communicating with the students older than 30 years old. (Table 4.)

Table 5. Environmental issues which respondents are most concerned or interested about

	Rank 1 (n=142)	Rank 2 (n=142)	Rank 3 (n=142)	Rank 4 (n=142)	Rank 5 (n=142)	Average ranking
Saving energy	21.9%	20.4%	19.7%	19.7%	18.3%	3.08
Saving resources or materials	27.5%	26.1%	19.0 %	21.1%	6.3%	3.47
Sorting and recycling waste	23.2%	22.5%	26.8%	16.2%	11.3%	3.30
Sustainable transportation	10.5%	13.4%	17.6%	28.2%	30.3%	2.46
Sustainable food	16.9%	17.6%	16.9%	14.8%	33.8%	2.69

Table 5 shows that the environmental issue which respondents were most concerned or interested about was firstly saving resources or materials (3.47), followed by sorting and recycling waste (3.30), saving energy (3.08), sustainable food (e.g. vegetarian, no food waste) (2.69), and least of all sustainable transportation (2.46). As claimed in previous sections, the topic in which respondents are concerned or interested about should indicate which communication on a topic that they will be most receptive to and engage in. The topic of sustainable transportation for example should then focus on raising concern or interest in it first before expecting a substantial impact or change in behaviour when implementing a project for it.

Table 6. Other environmental issues which respondents are concerned or interested about

No.	Theme	Occurrences (n=57)	Frequency
1	Global warming	10	17.54%
2	Biodiversity	7	12.28%
3	Consumer culture	6	10.53%
4	Pollution/Littering	6	10.53%
5	Water conservation	5	8.77%
6	Deforestation	3	5.26%
7	Nature conservation	2	3.51%
8	Ocean conservation	2	3.51%
9	Marine life conservation	2	3.51%
10	Saving resources/ recycling	2	3.51%
11	Sustainable construction	2	3.51%
12	Politics/Social issues and sustainability	2	3.51%
13	Animal welfare	1	1.75%

14	Animal agriculture	1	1.75%
15	Supporting local business	1	1.75%
16	Sustainable transportation	1	1.75%
17	Plastic usage	1	1.75%
18	Nuclear power	1	1.75%
19	Impact of war	1	1.75%
20	Green washing	1	1.75%

Table 6 shows other environmental issues which respondents were concerned or interested about other than those measured by the WWF Green Office survey. Respondents showed concern or interest in a great variety of other environmental issues. The most raised issue was global warming (17.54%) followed by biodiversity (12.28%), consumer culture including buying unnecessary products (10.53%), pollution and littering including chemical waste (10.53%), water conservation (8.77%), and deforestation (5.26%). There was a great interest in conserving nature and animals especially marine life and water quality which were mentioned specifically separately. It is not necessary for everyone to be interest in every environmental issues. Multiple projects and opportunities should be created so that students of every interest has something which they are passionate to participate in and produce the greatest results.

Table 7. Relationship between level of interest in environmental issues and willingness to change lifestyle to reduce environmental damage

	1 Not at all interested	2	3	4	5 Very interested	Total
n	3	7	21	49	62	142
Percent	2.1%	4.9%	14.8%	34.5%	43.7%	100%
1 Not at all willing	66.7%	28.6%	0	0	0	2.8%
2	33.3%	14.3%	9.5%	0	0	2.8%
3	0	57.1%	47.6%	38.8%	6.5%	26.1%
4	0	0	42.9%	61.2%	45.2%	47.2%
5 Very willing	0	0	0	0	48.4%	21.1%

As respondents showed more interest in environmental issues, the more willing they were to change their lifestyle in order to reduce environmental damage. Vice versa, the more uninterested they were, the more they were unwilling to change

their lifestyle. Overall, almost half of the respondent (47.2%) was somewhat willing to change their lifestyle in order to reduce environmental damage. The next largest portion were those who were neutral about changing their lifestyle (26.1%) followed by those who were very willing to change their lifestyle (21.1%). Even if respondents were willing to change their lifestyle, they were not willing to change their lifestyle completely. This suggests that in order to prompt students to perform pro-environmental behaviours, their interest in environmental issues has to be increased first. (Table 7.)

Table 8. Rankings of what stopped respondents from performing pro-environmental behaviours

	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	Rank 7	Rank 8	Average ranking
Lack of knowledge or instruction	15.5%	11.3%	12.0%	19.0%	9.8%	12.7%	11.3%	8.4%	4.78
Lack of budget	43.7%	23.9%	9.2%	11.3%	5.6%	1.4%	2.1%	2.8%	6.62
Lack of convenience	11.3%	26.7%	19.7%	12.7%	14.1%	10.6%	2.1%	2.8%	5.54
Lack of interest	5.6%	2.1%	5.6%	9.9%	19.7%	12.7%	24.0%	20.4%	3.28
Lack of prize	2.1%	10.5%	10.6%	12.0%	11.3%	18.3%	21.1%	14.1%	3.70
Lack of visible progress or impact	7.8%	11.3%	19.0%	16.2%	17.6%	19.7%	7.7%	0.7%	4.82
Lack of option	9.1%	9.8%	16.2%	12.7%	13.4%	16.2%	12.7%	9.9%	4.40
Disagreement or conflict with family, peers, or community	4.9%	4.2%	7.8%	6.3%	8.5%	8.5%	19.0%	40.8%	2.85

According to Table 8, what stopped the overall respondents most from doing pro-environmental behaviours was the lack of budget (6.62), followed by lack of convenience (5.54), lack of visible progress or impact (4.82), lack of knowledge or instruction (4.78), lack of option (e.g. no vegetarian menu, no suitable bin)

(4.40), lack of prize (3.70), lack of interest (3.28), and finally disagreement or conflict with family, peers, or community (2.85).

Table 9. Rankings of what stop respondents from performing pro-environmental behaviours at different levels of interest in environmental issues

	1	2	3	4	5
	Not at all interested				Very interested
	Average ranking (Rank)				
Lack of knowledge or instruction	4.33 (6)	4.14 (6)	4.19 (6)	4.77 (4)	5.08 (4)
Lack of budget	6.67 (1)	6.14 (1)	6.09 (1)	6.61 (1)	6.86 (1)
Lack of convenience	4.34 (4)	5.86 (2)	5.57 (2)	5.78 (2)	5.37 (2)
Lack of interest	5.34 (2)	4.71 (4)	4.71 (4)	3.47 (7)	2.38 (8)
Lack of prize	5.33 (3)	4.28 (5)	4.29 (5)	3.57 (6)	3.47 (6)
Lack of visible progress or impact	4.34 (4)	5.29 (3)	4.86 (3)	4.98 (3)	4.65 (5)
Lack of option	1.67 (8)	3.72 (7)	3.76 (7)	3.94 (5)	5.19 (3)
Disagreement or conflict with surrounding people	4.00 (7)	1.86 (8)	2.52 (8)	2.88 (8)	3.00 (7)

According to Table 9, what stopped respondents who had no interest in environmental issue at all from doing pro-environmental behaviours was the lack of budget (6.67), followed by lack of interest (5.34), lack of prize (5.33), lack of convenience (4.34), lack of visible progress or impact (4.34), lack of knowledge or instruction (4.33), disagreement with family, peers, or community (4.00), and least of all, lack of option (1.67). For respondents who were very interested in environmental issues, what stopped them most from doing pro-environmental behaviours was the lack of budget (6.68) followed by lack of convenience (5.37), lack of option (5.19), lack of knowledge or instruction (5.08), lack of visible progress or impact (4.65), and lack of prize (3.47), disagreement with family, peers, or community (3.00), and least of all having lack of interest (2.38).

As the interest in environmental issue increased so thus the general trend of respondents placing importance on lack of knowledge or instruction, lack of



option, lack of budget, and disagreement with surrounding people stopping them from doing pro-environmental behaviours, with minor exceptions. In contrast, the importance of lack of interest and lack of prize stopping them from doing pro-environmental behaviours goes down. (Table 9.)

Compared with other levels of interest in environmental issues, respondents with no interest at all showed high disregard for lack of convenience as a factor which stopped them from performing pro-environmental behaviours, ranking it as not as important as the other levels of interest did. Meanwhile, they placed greater importance on lack of prize and disagreement with surrounding people. On the other hand, respondents who were very interested in environmental issues showed great regards for lack of option stopping them compared to other levels of interest in environmental issues. However, what stopped respondents of all levels of interest most from performing pro-environmental behaviours was the lack of budget. (Table 9.)

According to Appendix 2, other factors which stop respondents from performing pro-environmental behaviours included the lack of options such as recycling points or possibilities at their household or workplace and no available electric vehicle charging point. The other was the difficulty of balancing life with being sustainable. Examples include how the urge to participate in consumer culture and buy products remains. It is time consuming to perform proper pro-environmental behaviours. Public transport is not always a viable option e.g. in the countryside or when the schedule of the public transport does not match with one's schedule thus requiring the use of one's personal vehicle instead. The lack of income was emphasized again. Respondents expressed how sustainable items frequently are more expensive and thus more income is required to maintain a sustainable lifestyle. Therefore environmental support projects which provide resources and education programs should be implemented.

Table 10. Preferred communication channel for receiving environmental information from Xamk

Communication channel	Total (n = 364)	Percent (100%)
Class lecture	43	30.3%
Information booth	13	9.2%
E-mail	87	61.3%
Lux	55	38.7%
Facebook	12	8.5%
Twitter	4	2.8%
Blog	10	7.0%
Tuudo	55	38.7%
Xamk magazine (Insider)	6	4.2%
Poster	23	16.2%
Pamphlet \ Leaflet	6	4.2%
Info screen	36	25.4%
Green Office Teams group	2	1.4%
Others (Please specify)	12	8.5%
Instagram	7	58.3%
LinkedIn	1	8.3%
Vlog/other audiovisual methods	1	8.3%
Own research	1	8.3%
Teams general group	1	8.3%
No desire for information at all	1	8.3%

The most preferred communication channel for receiving environmental information from Xamk was by far by e-mails (61.3%). Followed by Lux (38.7%), Tuudo (38.7%), class lecture (30.3%), information screen (25.4%) and poster (16.2%). Of the other communication channels specified in the others category, Instagram was the most mentioned. A respondents commented how it was undesirable to have to join many separate groups in Teams and would rather have a general Teams group to receive information. There was also a mention of not wanting to receive any information at all accompanied by expressions of great distrusts towards pro-environmental mentalities. (Table 10) While resources may be focused on the most preferred communication channel, it was reported to better use multiple communication channels together in order to appeal to multiple preferences. For complex-to-navigate channels such as Lux and Teams, instructions should be given early on what they can be used for and how to

navigate them. A respondent gave the opinion that students in general do not know about Lux.

Table 11. Preferred format for environmental information or activity from Xamk

Format for environmental information or activity	Total (n = 426)	Percent (100%)	
Illustration \ Infographic	92	64.8%	
Video	60	42.3%	
Short written content (e.g. e-mail, blog post, poster)	88	62.0%	
In-depth written content (e.g. guidebook)	33	23.2%	
Scientific article	55	38.7%	
Friendly game	27	19.0%	
Competition	27	19.0 %	
Workshop (e.g. hands-on learning)	42	29.6%	
Others (Please specify)	2	1.4%	
	Lecture or seminar	1	50%
	None	1	50%

When given the option to select the three most preferred format for environmental information or activity arranged by Xamk, 64.8% of respondents picked illustrations and infographic, followed by short written content (62%), video (42.3%), scientific article (38.7%), workshop (29.60%), in-depth written content (23.20%), competition (19%), friendly game (19%), and others. It is inferred that a format which is attractive, easy to understand, is not time consuming, yet still is logical and practical seems to be the preferred format. (Table 11.)

Table 12. Preferred tone of voice for environmental content or activity

Tone of voice	Total (n = 425*)	Percent	
Funny	24	17.02%	
Entertaining	61	43.26%	
Serious	36	25.53%	
Informative	123	87.23%	
Friendly	79	56.03%	
Straight to the point	98	69.50%	
Others (Please specify)	4	2.84%	
	Positivity	1	25%
	Between funny and straight to the point	1	25%
	Understanding	1	25%

Honest (no manipulation with guilt or fear)	1	25%
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\* Invalid answer = 1 (original n = 426)

When given the option to select three most preferred tone of voice for environmental content or activity, a majority of respondents (86.6%) preferred the tone of voice to be informative followed by straight to the point (69%), friendly (55.60%) and entertaining (43%). Other tones of voice mentioned as preferred by the respondents included positivity, something between funny and straight to the point, understanding, and honesty with no manipulation through guilt or fear. Because of how respondents previously mentioned the difficulty of balancing their lifestyle with being environmentally friendly, it coincides that respondents preferred the sender of the message to be understanding and takes into consideration the respondents' life circumstances. (Table 12.)

Table 13. Desirable qualities in an environmental content or activity by Xamk

	1 Unimportant	2	3	4	5 Very important
Entertainment	9.1%	12.0 %	35.9%	33.1%	9.9%
Educational	0.7%	2.1%	9.9%	38.7%	48.6%
Short duration	0.7%	4.2%	34.5%	42.3%	18.3%
Food is available	17.6%	12.0 %	23.9%	21.8%	24.7%
Trying new things	6.4%	6.3%	33.8%	32.4%	21.1%
Hanging out with friends	10.5%	13.4%	31.0 %	27.5%	17.6%
Low or no costs	0.7%	2.8%	18.3%	38.0 %	40.2%
Located on campus	11.3%	9.1%	32.4%	29.6%	17.6%
Easy registration	2.1%	5.7%	19.7%	35.2%	37.3%
Prize	16.9%	20.4%	32.4%	17.6%	12.7%
Competition	31.0%	16.9%	31.7%	14.1%	6.3%

The qualities in an environmental content or activity if produced by Xamk which the respondents considered as very important foremost was whether it was educational (48.6%), cost little or nothing (40.2%), and easy to register (37.3%). Again, respondents emphasized wanting to be properly educated, wanting convenience, and how budget greatly affect whether they engage with environmental activities. Availability of food and short duration were considered as important by some respondents while other respondents were neutral on

them. Respondents were mostly neutral towards needing entertainment, getting to try new things, hanging out with friends, and travelling outside campus for an environmental content or activity but leaned towards these qualities having some importance rather than no importance. Receiving prizes and competing with others were generally considered as unimportant. Competition was especially unimportant. (Table 13.) Receiving prizes being unimportant could be due to how the majority of the respondents were those interested in environmental issues (Table 4).

Other desirable qualities expressed by respondents for environmental content or activity by Xamk include wanting to see genuine intentions and effort in implementing the content or activity not just implementing it for approval. They feel Xamk should lead by example. It was specified that the knowledge and suggestions received should be practical for everyday life on campus and in their personal life. Difficult dilemmas should be raised and discussed with understanding concerning balancing lifestyle and being sustainable without treating the respondents like children. For some respondents, just receiving the information on how to help was enough and they do not desire to do any extraneous activity alongside it. Another desired the possibility of online content or activity. A respondents emphasized again how they thought free food would encourage people to participate in an activity. (Appendix 2.)

Table 14. Level of interest in environmental issues and necessity of prize

	1 Not at all interested	2	3	4	5 Very interested	Total
n	3	7	21	49	62	142
Percent	2.1%	4.9%	14.8%	34.5%	43.7%	100%
A prize is still necessary	66.7%	0	23.8%	20.4%	12.9%	17.6%
A prize is not necessary then	33.3%	100%	76.2%	79.6%	87.1%	82.4%

Overall, a majority of respondents (82.4%) answered that a prize was not necessary to entice them into participating in an environmental activity if they had a good time or gained knowledge from the activity. Regardless of the level of interest in environmental issues, more respondents answered that a prize was not necessary than the opposite. Except for respondents who had no interest in

environmental issues at all where a larger portion answered that a prize was necessary to entice them into participating. This coincides with previous results where lack of prize was not ranked highly on what stop those who were interested in environmental issues from doing pro-environmental behaviours and vice versa. (Table 14.)

Table 15. Most preferred format for giving out prizes

Format for giving out prizes	n	Percent
Prize is given to winner	25	17.6%
Prize is given by raffle	32	22.5%
Prize is given for participation	82	57.8%
Others (Please specify)	3	2.1%
Person who positively impact others	1	33.33%
Donation to environmental cause	1	33.33%
When a condition or quota is met	1	33.33%

When prizes are given out, more than half of the respondents (57.8%) responded that they preferred the prize to be given for participation rather than given by raffle (22.5%) or given to only the winner (17.6%). Other formats suggested for giving out prizes include giving the prize to someone who positively affects others and when a specified quota or condition has been met. (Table 15.)

Table 16. Level of interest in environmental issues and preferred prize

	1 Not at all interested	2	3	4	5 Very interested	Total interested
n	3	7	21	49	62	142
Percent	2.1%	4.9%	14.8%	34.5%	43.7%	100%
Cash	66.7%	42.9%	47.6%	34.7%	25.8%	33.8%
Study credits	0	57.1%	38.1%	42.9%	37.1%	39.4%
Shop gift cards	66.7%	57.1%	42.9%	49.0%	38.7%	44.4%
Trinkets	33.3%	14.3%	57.1%	34.7%	25.8%	33.1%
Donation to charity of choice	33.3%	28.6%	23.8%	40.8%	61.3%	46.5%
Sustainable item	33.3%	42.9%	57.1%	61.2%	69.4%	62.7%
Food	33.3%	57.1%	33.3%	30.6%	38.7%	35.9%
Other	33.3%	0	0	6.1%	3.2%	4.2%

When given the option to pick three prizes they prefer to receive, two-thirds of the total respondents (62.7%) preferred sustainable items as the prize followed by donation to a charity of choice (46.5%), and shop gift card (44.4%). The least preferred were trinkets such as keychains and plushies (33.1%). There was a possibility of lack of shared definition for 'sustainable items' between the survey and the respondents due to bad wording in the survey. In the case of the survey, the word meant items which would help an individual in maintaining a sustainable lifestyle such as recyclable bags, plant seeds, or organic items. (Table 16.) A majority of students choosing sustainable items as one of their prize of choice indicates a willingness to participate in pro-environmental behaviours. It also ties with how respondents felt that living a sustainable lifestyle requires higher income and this option may reduce the financial burden on respondents in performing pro-environmental behaviours.

The second most preferred prize being donation to a charity of choice also indicates a willingness to participate in pro-environmental behaviour albeit in a different way. Some respondents had mentioned feeling not being able to make big impacts as individuals. Respondents may feel that giving power to a charity who is a bigger organisation with more tools may produce larger positive environmental impact. (Table 16.)

Of those who were very interested in environmental issues, sustainable items (69.4%) and donation to charity of choice (61.3%) remained as top preferable choice. Other prizes respondents commented to prefer included badges for overalls, gift cards to an activity, and hoodies. A Respondent reminded that the food given as prizes should consider possible allergies and other food restrictions such as lactose intolerance or vegan diet. (Table 16.)

Table 17. Preferred way to participate in environmental activity to achieve a goal

	n	Percent
Individually	98	69.0%
In small teams (Less than 5 people)	90	63.4%
In big teams (More than 5 people)	36	25.4%
Altogether as a campus	57	40.1%

When given the choice to pick all applicable preferred ways to participate in an environmental activity to achieve a goal, two-thirds preferred to participate individually (69%) and in small teams of less than 5 people (63.4%) rather than in big teams of more than 5 people (25.4%). There was some preference for participating altogether as a campus (40.1%). (Table 17.)

Table 18. Level of interest in environmental issue and importance of ability to influence Xamk's environmental communication

	1 Not at all interested	2	3	4	5 Very interested	Total
n	3	7	21	49	62	142
Percent	2.1%	4.9%	14.8%	34.5%	43.7%	100%
1 Not at all important	33.3%	14.3%	4.8%	14.3%	3.2%	8.5%
2	0	14.3%	23.8%	4.1%	1.6%	6.3%
3	33.3%	42.9%	42.9%	36.7%	22.6%	31.7%
4	0	14.3%	28.6%	42.9%	40.3%	37.3%
5 Very important	33.3%	14.3%	0	2.0%	32.3%	16.2%

A third of the total respondents (37.3%) felt it was somewhat important for them to be able to influence Xamk's environmental communication but another third also did not mind either way (31.7%). The more the respondents had interest in environmental issues, the more they placed importance on them being able to influence Xamk's environmental communication. However in general, respondents did not feel they need to have complete influence over Xamk's environmental communication. (Table 18.)

## 9 LIMITATION OF THE STUDY

In this study, the response rate was 1.31% which is significantly lower than the 60% threshold expected of a credible survey data. The low response rate clearly shows a high nonresponse bias in this study and the conclusions drawn from the data of this survey may not apply to the remaining Xamk's student population who did not respond to the survey. Due to the same reason, the conclusions drawn may not apply to students of other higher education institutions as well. However regarding the latter limitation, it was expected that the data collected in



this study may not completely apply to other higher education institutions other than Xamk. This study was concerned with investigating effective communication method by adjusting communication method for a specific target audience and the same target audience in a different location may still have different characteristics. This study emphasized the importance of adjusting communication by first understanding each respective target audience.

Due to the low sample of 142 respondents, many questions within the survey had low credibility to their analysis. When categorising the respondents into separate groups of characteristics such as age, nationality, interest in environmental issues, or willingness to change their lifestyle in order to reduce environmental damage, the sample in each group were either too small or too imbalanced compared to others. Answers from open-ended questions often raised topics applying to only one or a few respondents. Yet they were still distinct topics and classifying them together in order to have more corresponding respondents risked losing possible meaningful insights.

There was a possibility of miscommunication between the author of the survey and the respondents. The wordings or the terms used in the survey may not be interpreted by the respondents as the author of the survey intended and led to data with less validity. The qualitative data obtained from the open-ended questions within the survey of this study was subjected to subjective bias of the respondents and the author of this study. The nature of qualitative data indicates that the actual answers given by the respondents may not correspond perfectly with what they truly think. The answers were then further interpreted subjectively by the author of this study in the 'coding' process and in how to present them in this report. Data which were considered to have little relevance to the aim or scope of the study were not emphasized. While the author attempted to interpret, analyse, and present the data as accurate to their raw state as possible, the decision process could be seen as liberal to an extent.

It is to be noted that during the collection period for the survey of this study, there was an on-going pandemic of the name coronavirus disease, also called COVID-

19, both globally and within the cities where the survey was conducted. Due to the nature of COVID-19, city residents were advised to stay inside their homes and avoid contact with other people as much as possible. There were government policies put in place to enforce such restrictions. Consequently, respondents' preferred communication method was possibly influenced and was more in favour of electronic communication channels to comply with these restrictions. If students were not able to commute to school then an information screen placed on campus might not be their preferred communication channel for receiving information from Xamk in such a case. It is unclear whether the data collected in this study would apply in the future when the pandemic is over. There is a possibility that because the pandemic had went on for a significant extended period of time, upheaving a part of how society operates, by the time this study was conducted, society and people's preferences were already permanently changed and was reflected in the data of this study enabling it to be viable for future applications.

In addition to the ongoing pandemic during the collection period of the survey, there was an ongoing war between Ukraine and Russia who are neighboring countries of Finland. The pandemic can result in deaths and there was a fear that the war may spread to Finland. These two major events possibly influenced the respondents' mentality when answering the survey. The pandemic and the war were more of an immediate threat while environmental issues can seem more impersonal. As a result, respondents may feel that there were other issues to worry more about than environmental issues and reduced how much they care about environmental issues. There were responses mentioning the word 'war' in the open-ended questions suggesting that some respondents factored in the event when completing the survey. Both the pandemic and the war are uncommon events in which respondents would not have likely factored in their usual decision makings.

## **10 DEVELOPMENT SUGGESTIONS FOR COMMISSIONER**

Some respondents in the survey expressed great distrust and anger towards green movements. They gave the opinions that environmental communications

were lies and the green movement was a scheme for the rich to take money from the common people. It cannot be expected to find only positive agreement towards environmental communication and pro-environmental behaviours. Xamk has to be careful of greenwashing itself and practice sustainability with sincerity and dedication. It is heavily suggested that Xamk communicates to students why it is important to engage in pro-environmental behaviours while practicing those pro-environmental behaviours itself. Communicate to students more transparently such as in a report regarding the implementation, progress, and impacts of students' and Xamk's pro-environmental behaviours and environmental projects. Impacts could include how much food waste was reduced or energy was saved which is equal to how much carbon footprint was reduced or how many trees are saved for examples.

While respondents did not highly rank disagreement or conflict with family, peers, or community as a factor stopping them from performing pro-environmental behaviours, some respondents still expressed concerns over being negatively affected by anti-environmental actions of other people surrounding them. They felt unmotivated and useless when seeing other people showing no care for the environment nor willingness to help and felt concern over what progress they have made through their pro-environmental actions being undone by the actions of others. For this reason, it is suggested that Xamk creates and maintains a sincere, positive, and encouraging culture within Xamk in regards to sustainability in order to preserve the motivation of those interested in environmental issues and dissuade anti-environmental behaviours. At the same time, feedback including negative ones, even if undesirable and damaging to the atmosphere of the organisation, should not be censored nor ignored for there may be backlash. Instead, the university should continue attempting to understand their students and display honesty and dedication towards sustainability through concrete actions.

Nevertheless, even if a higher education institution attempts to be sustainable, it is still part of a larger society. The way green culture operates and is viewed within the culture of the society will affect the opinion of the students on whether

they are comfortable doing pro-environmental behaviours without being alienated and whether they feel that it was worth it. Thus not only does Xamk have to maintain a positive culture within its organisation towards green movements, it should also attempt within reasonable means to advocate and move the city it is located in towards a more a more positive culture that supports and encourages sustainability developments. Whether through voting for sustainable policies, discussion forums, or project partnerships.

Although the scope of this thesis was focused on improving sustainability on campus, some respondents commented that large companies and politicians are the ones who could produce the largest actual environmental impact not small individuals. Large companies could have reduced how much energy they use and the waste they produce while politicians can enforce restrictions on these companies in order to reduce environmental damage. The actions of these parties influence the motivation to make an effort on part of the respondents. It is a suggestion that Xamk takes into consideration forming partnered environmental projects with local organisations that could produce an environmental impact on a larger scale not limited to Xamk campus. It is preferable for the projects to be ones where students could join and make contributions so that students may feel they are producing an actual impact and that there are others in society who support sustainability cause as well. A practical training placement in environmental related companies is an alternative option with additional incentives for the students.

Many respondents proposed starting with implementing sustainability changes to Xamk's catering services and recycling and reusing opportunities and had presented some ideas. One suggestion is to measure and record the amount of food waste from the lunch eaten by the students. The numbers are then presented to the students week by week at the wall near where students throw away their food. Let the students see how the progress in reducing food waste is going. Some kind of goal may be set and a congratulation granted when the goal is achieved.

A vegetarian option should be a daily option on all campuses rather than on selected dates. Many people who do not like to eat vegetables commonly claimed it was because they either do not like the taste, texture, or are uncertain to try a new menu among other reasons. Some people have the impression that vegan food is not as delicious as meat-based food. Consuming vegetarian options may be encouraged through changing negative impressions into positive ones. A tasting session for vegan menu from time to time is suggested involving giving out food samples to students. Students could possibly like the sample food and positively change their impressions of vegan food then are more easily encouraged to buy the vegetarian lunch option. At the same time of the tasting session, feedback may possibly be obtained from the students tasting the samples. The feedback could be used to improve the vegetarian menu. In this case, a small conversation on how the food taste should be less effort for the students than using a survey. Further incentives for students to buy the vegetarian lunch option could include selling them at a lower price than meat-based menu or including a small snack with the vegetarian option.

Xamk sells and gifts Xamk branded products. The act of giving out corporate gifts such as pens or keychains may unintentionally look frivolous and not in line with the concept of sustainability which Xamk aims to embody. Such gifts if to be produced, should be environmental friendly. Subsequently, give some emphasis on how these gifts are produced ethically and ecologically. An organisation's every action reflects on who they are and their principles thus even the products for the purpose of brand building should not give the wrong impression of Xamk. It is most preferable for the products to be certified by a credible third-party however other alternatives may include a written content about the products explaining their green qualities on Xamk's public website or adding a symbol on the products indicating that they are environmental friendly.

## **11 SUGGESTIONS FOR FURTHER RESEARCH AND DEVELOPMENT**

This study has a wide breadth, investigating a variety of factors which could be taken into considerations when planning an environmental communication project. Multiple factors were not investigated in depth. On this account, it is

suggested to have further research focusing into a single factor or two under controlled environments in order to verify relationships and deepen the understanding of each factor separately. Each factor said to be preferred by the respondents in this study should be further tested whether they indeed produce effective environmental communication.

The focus of this study was on adjusting environmental communication to the preferences of the students of a university who was the target audience. However, further research could be made as well regarding the factors involved in planning an environmental communication project from the perspective of a sender of the message such as what resources would they need or obstacles when implementing a communication project for an audience from an organiser's standpoint. Accessibility of communication especially for people with special needs could be further studied. The need for an organisation's culture to reflect their green policies in order to have a credible environmental message was touched upon in this study. How an organisation can change their culture to a pro-sustainable culture is another possible research area.

Other than positive feedback, this study encountered negative feedback regarding green movements as well. This prompts further research to be made in regards to those who are against green movements. This group of people in this study showed different attitudes and preference compared to those who are positive towards green movements. Thus they should be studied separately such as what would change their minds, how can their negativity be dealt with, how to incorporate their feedback, what conflicts could arise between them and those who do not agree with them, and what actions they could possibly take to protests against green movements and environmental communication.

## **12 CONCLUSIONS**

To reiterate, this thesis aimed to investigate what communication method would be most effective for higher education institutions to use in informing their students of environmental information and encouraging pro-environmental behaviours on campus. Effective communication relies partly on understanding

the target audience of the communication and adjusting how to appeal to them accordingly. As such, a survey was used to better understand students, who were the target audience of this study, on how they wanted to be communicated with in relations to environmental topics. The conducted survey for this study received 142 responses and had gathered data on respondents' general personal information, environmental attitude, and preferences for environmental communication method. Testing the effectiveness of an environmental communication tailored using the preferences gathered from the respondents was outside the scope of this investigation and required further research. The survey data provided some insights for the aim of this thesis however the response rate could be considered too low for the data to be reliable and valid. Additionally, there were atypical major events such as an ongoing pandemic and war occurring over the collection of the survey, which could possibly have influenced the mentality of the respondents, further raising doubts concerning the reliability and the validity of the data. The applicability of the results of this study for tailoring future environmental communication projects depends on the user's judgement.

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LIST OF FIGURES

Figure 1. Lasswell's model of communication .....5  
Figure 2. Shannon & Weaver's model of communication .....5

## LIST OF TABLES

Table 1. Percentage of gender per age group of respondents .....	23
Table 2. Percentage of how many respondents are aware of the Green Office label in Xamk.....	23
Table 3. Percentage of how respondents learned of Xamk’s Green Office label.	24
Table 4. Percentage of age groups per level of interest in environmental issues	25
Table 5. Environmental issues which respondents are most concerned or interested about.....	26
Table 6. Other environmental issues which respondents are concerned or interested about.....	26
Table 7. Relationship between level of interest in environmental issues and willingness to change lifestyle to reduce environmental damage .....	27
Table 8. Rankings of what stopped respondents from performing pro-environmental behaviours .....	28
Table 9. Rankings of what stop respondents from performing pro-environmental behaviours at different levels of interest in environmental issues.....	29
Table 10. Preferred communication channel for receiving environmental information from Xamk .....	31
Table 11. Preferred format for environmental information or activity from Xamk.	32
Table 12. Preferred tone of voice for environmental content or activity .....	32
Table 13. Desirable qualities in an environmental content or activity by Xamk ...	33
Table 14. Level of interest in environmental issues and necessity of prize .....	34
Table 15. Most preferred format for giving out prizes .....	35
Table 16. Level of interest in environmental issues and preferred prize.....	35
Table 17. Preferred way to participate in environmental activity to achieve a goal .....	36
Table 18. Level of interest in environmental issue and importance of ability to influence Xamk’s environmental communication.....	37
Table 19. The distribution of respondents’ continent of origin .....	52
Table 20. The distribution of respondents’ Xamk campus they are studying on..	52
Table 21. Other factors stopping respondents from doing environmental-friendly behaviours.....	52
Table 22. Other desirable qualities in an environmental content or activity.....	53

Table 23. Other opinions on how Xamk can effectively communicate environmental information or encourage environmental-friendly behaviours with students.....	53
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**LIST OF SURVEY QUESTIONS**

1. What is your gender?
2. What is your age?
3. Which continent are you from? (Pick which is most applicable to you)
4. What campus are you studying on?
5. Are you aware of the Green Office label in Xamk?
6. How did you learn of Xamk's Green Office label?
7. How interested are you about environmental issues?
8. Please rank environmental issues which you are most concerned or interested about. (Rank 1 is most concerned and Rank 5 is least concerned)
9. Are there any other environmental issues which you are concerned or interested about? Please tell us which one.
10. How willing are you to change your lifestyle in order to reduce environmental damage?
11. Please rank what stop you most from doing environmental-friendly behaviors. (Rank 1 is top reason and Rank 8 is lowest reason)
12. Are there other factors which stop you from doing environmental-friendly behaviors? Please tell us which one.
13. What is your most preferred communication channel for receiving environmental information from Xamk? (Select up to 3 answers)  
Environmental information in this case may be environmental-friendly behaviours information or relevant environmental events.
14. Which format do you most prefer for your environmental information or activity from Xamk? (Pick 3)
15. Which tone of voice do you prefer for your environmental content or activity? (Pick 3)
16. How important are the following qualities in an environmental content or activity by Xamk?
17. Are there any other desirable qualities in an environmental content or activity? Please tell us which one.
18. Is a prize still necessary for you to participate in an environmental activity if you have a good time or gain knowledge?
19. Which format do you most prefer for giving out prizes?
20. What prize would you like for participating in an environmental content or activity? (Pick 3)
21. How do you prefer to participate in an environmental activity to achieve a goal? (Pick all that apply)  
For example, reducing a set amount of food waste or participating in a competition.
22. Is it important that you are able to influence Xamk's environmental communication?
23. Do you have any other opinions on how Xamk can effectively communicate environmental information or encourage environmental-friendly behaviors with students?

**LIST OF TABLES**

Table 19. The distribution of respondents' continent of origin

Continent	n	Percent
Europe	129	90.9%
Asia	6	4.2%
North America	2	1.4%
South America	1	0.7%
Africa	3	2.1%
Australia	0	0
Other	1	0.7%

Table 20. The distribution of respondents' Xamk campus they are studying on

Campus	n	Percent
Kotka	22	15.5%
Kouvola	47	33.1%
Mikkeli	51	35.9%
Savonlinna	9	6.3%
Online only	13	9.2%

Table 21. Other factors stopping respondents from doing environmental-friendly behaviours

No.	Theme	Occurrences (n=27)	Frequency
1	Lack of budget	3	11.11%
2	No suitable public transportation	3	11.11%
3	Lifestyle conflict	3	11.11%
4	No sustainable options	3	11.11%
5	Need actions from big corporations	3	11.11%
6	Discouraged by uncaring behaviours	3	11.11%
7	No recycling options	2	7.41%
8	Time consuming	2	7.41%
9	Actions have unknown impact	1	3.70%
10	False information	1	3.70%
11	Need political actions	1	3.70%
12	Lack of education	1	3.70%
13	Distrust of Green Movement	1	3.70%

Table 22. Other desirable qualities in an environmental content or activity

No.	Theme	Occurrences (n=9)	Frequency
1	Practical for everyday life	3	33.33%
2	University lead by example	1	11.11%
3	Online participation	1	11.11%
4	Just info, no extraneous fussy activities	1	11.11%
5	Free food	1	11.11%
6	Rewarded quizzes	1	11.11%
7	Genuine intentions and effort	1	11.11%

Table 23. Other opinions on how Xamk can effectively communicate environmental information or encourage environmental-friendly behaviours with students

No.	Theme	Occurrences (n=29)	Frequency
1	Better communication	6	20.69%
2	Encourage pro-environmental actions	4	13.79%
3	Involve students	3	10.34%
4	Better recycling and reusing opportunities	3	10.34%
5	Deal with food waste	3	10.34%
6	Provide education	3	10.35%
7	Provide tools for sustainability actions	2	6.90%
8	Remind why sustainability matters	2	6.90%
9	Encourage vegan food	2	6.90%
10	Distrust towards green movements	1	3.45%