Bachelor Thesis

"To what extent do visual markers influence the recall and persuasiveness of environmental advertisements?"

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Abstract

Argumentation is a vital tool used in contemporary society to help us to reach conclusions and resolve disaccord over the truth fairly and accurately. Respectively, the function of an argument is to persuade. In order to further understand the notion of persuasion, examining the way arguments are structured and organized can underline how the persuasive power of an argument can be enhanced. Signaling is a device that can be employed to develop the structure and organization of arguments, and visual structure is a type of signaling device which makes up the arrangement and presentation of information. Consequently, the current investigation aims to examine to what extent the visual structure of arguments influences the recall and persuasiveness of environmental advertisements. The study does so by examining how three different visual structures, comprising of paragraphs, bulleted lists, and numbered lists, can influence the recall and persuasiveness of environmental advertisements. The respondents were presented one of the three conditions and asked to answer a survey which measured recall and persuasiveness. The results displayed that text structure of arguments had a significant impact on recall. However, text structure of arguments did not have a significant influence on persuasiveness.

Key words: Arguments, recall, persuasiveness, signaling, visual text structure, environmental advertisements

Introduction

In a world with an immeasurable number of conflicting opinions and disagreement, argumentation is a key tool in navigating the complex terrain and helping us to draw conclusions that are fair, accurate and resolve disaccord over the truth. Arguments have two distinctive characterizations, one of which is a 'dispute' between two agents, the other being a set of reasons given in support of an idea or action. The current study intends to focus on the former. Through argumentation we can present and review claims, evidence, and methods of investigation on a particular topic unambiguously. Arguments are not simply a statement of a certain opinion, but rather an intentional effort to support a specific view with systematic evidence and reasoning. Giving an argument is defined as "the offering of a set of reasons or evidence in support of a conclusion" (Weston, 2017 , p. 5). Argumentation also has the objective to change one's point of view, persuade them to adopt a new one or convince them to embrace a certain action or behavior. The process of argumentation is essential because arguments can present one view as better than the other, although this does not necessarily mean they are objectively better. Weston (2017) also found that argumentation aims to convince people by informing them with the relevant information so that they can make up their minds for themselves.

The function of arguments is to persuade, and conciseness is an important part of persuasive texts. Conciseness helps to construct effective arguments which ultimately increases the persuasive power. Thus, closely considering the way arguments are structured and organized can provide insight into how the persuasive power of an argument can be improved. Accordingly, being concise is a crucial element to consider. Yaffe (2019) detailed the importance of said conciseness. The study underlined the idea that in contemporary society, people have shorter attention spans compared to in the past, and that they tend to pay attention, only to texts that catch and maintain their interest. While shortening texts is an easy tactic to reduce the amount of processing time and attention required from the viewer, this method often sacrifices important information and clarity, making texts less informative. Arguments often also contain complex information and conciseness can help to remove certain words and explain the argument to the recipient more clearly. Being concise ensures that everything the text communicates has purpose and meaning for the reader and is accurate. Conciseness essentially means "saying everything that needs to be said in as few words as possible to ensure clarity" (Yaffe, 2019, p. 16). Any additional unnecessary words or information distract from the main concepts, add no value, and negatively impact reader

comprehension. This assumption is supported by the Petty (2011) elaboration likelihood model which emphasizes the idea that the simpler a text is, the more motivated readers are to read and process arguments. Ultimately, unnecessary words diminish the motivation of readers to process the arguments. Unnecessary words also subconsciously make the reader ask themselves if there is any need for them to be there, and the more often readers identify unnecessary words the more likely they are to feel confused or that they do not understand the text and stop reading. Therefore is vital to maintain a concise structure in order to construct effective arguments, increase persuasive power and communicate effectively with purpose and meaning.

Signaling is a device that is used to improve the structure and conciseness of arguments by emphasizing specific key aspects of a text's content and is defined as "writing devices that emphasize aspects of a texts content or structure without adding to the content of the text" (Lorch, 1989, p. 32). There are various different kinds of signaling devices. Some of them emphasize specific text content (e.g. "it is vital to point out that...") while other signaling devices lay emphasis on the organization of information within a text (e.g. numbering, lists and bullet points). Signals also come at high levels (e.g. titles or headings in text) or low levels (e.g. underlining or use of italics) of text structure. Moreover, signals comprise of typological cues which physically distinguish them from the text (e.g. headings and titles), or alternatively they can be embedded in the text (e.g. preview sentences). All signaling devices share the common objective of directing the reader's attention for an enhanced reading process. Moreover, the presence of signals increases the retention and recall of the emphasized material (Lorch, 1989, p. 32, Barker, 1974, p. 21). Signaling the organization of a text ultimately makes it more explicit and salient for the reader, which in turn facilitates an improved reading process, a more concise configuration, increased persuasive power and improved recall.

The choice of visual structure employed in a text is another factor that has proven to influence persuasive power, recall and reading behavior. Visual text structure is the way in which information is structured and presented and can take on many different forms. The most frequently used way to structure texts, which the current study aims to examine, is through listwise presentation of information. According to Karreman (2007) listwise presentation of information can be in the form of procedural texts, which are texts that list a sequence of steps to carry out a task, or in the form of regular lists with no demarcated sequence. The current study focuses on the former and aims to examine listwise presentation of arguments in the form of bulleted lists and numbered lists. Bulleted lists are a series of

items with a heading broken up by dotted points (Waters, 2021, p. 7) and enumeration is a structure in which items are preceded by number signals, in the form of numerals or number words (Jansen, 2014, p. 11).

Although listwise structures are used in many contexts and found in a range of text types, literature on listwise structures is somewhat unclear and contradictory about which structure is the most effective. Lorch (1986) found that numbering sentences in listwise text structures helped to direct attention to them, resulting in them being memorized better than unsigned sentences (sentences without bullet points or enumerations). A study by Diehl (1995) which compared listwise structured texts and unsigned paragraph structured texts, on the other hand, concluded that while the listwise structure did lead to improved task performance, the paragraph structure proved more effective for retention of information. In contrast, Geiger (2004) similarly examined the difference between procedural listwise structured texts and procedural paragraph texts and found that paragraphs lead to better comprehension of the text. The deviating results underline the complexity surrounding visual text structures and attests to the need for increased research on the subject.

Numerical markers are another visual text structure that can be employed to communicate information to readers, which the current study also intends to examine. As previously mentioned, when presenting a series of arguments, choice in presentation of information is vital, and enumeration is a simple and effective method that can be employed. For example, in a body of text that aims to present arguments for a certain point of view, each piece of supporting evidence could be preceded by number signals, in the form of numerals or number words. Jansen (2018) described that when using numerals, the arguments are listed one after the other with numbers and when using number words, arguments are introduced using triggers like ‘I have two main reasons’ or ‘I have a number of arguments’. Additionally, Lorch (1985) found evidence showing that number signals improve the recall of the information they mark. The pattern of previous research regarding the effect of signaling (including numerical markers) on recall is consistent and has provided evidence that there is a positive relationship (Myers 1997, Sanders 2007). However, many of these studies tend to group and examine a wide variety of signals together, meaning that the effect cannot be attributed independently to only numerical markers for instance. Moreover, this makes it difficult to differentiate the isolated effects of the various types of signals and text types (e.g. numerical markers, bulleted lists). This underlines the need for more research on the independent effect of signals like numerical markers.

Despite the extensive literature which groups together signals when examining their effect, there are some exceptions. Geiger (2004) for example, isolates the numerical marker condition and investigates the independent effects of a numerical marker structural signal on recall. By comparing a numerical marker text structure to a descriptive text, Geiger can objectively identify the independent effect of numerical markers on recall. The findings showed that there was no significant difference between the numerical marker condition and the descriptive text condition, which could be a result of how similar the two visual structures used were, because the numerical markers were written out as words rather than in the form of numerals. While the result found no significant difference, Geiger (2004) demonstrates the value of isolating the different types of text structures and signaling techniques to find more focused results. Moreover, the findings contradict previous literature which examines the effect of signaling by grouping the signals together. Notwithstanding the value of Geiger's study, the limitation is that measurement of the readers behavior was limited only to recall and answer accuracy, which poses a constraint on data collected about attitudes. Similarly, Morrow (1995) isolated the numerical marker structural signal and compared it to a list wise structural signal in product advertisements. Findings revealed that older adults preferred the numerical markers condition and that it improved recall, although it had no impact on purchase intention, which contradicts the findings by Geiger (2004). Morrow's choice to measure purchase intention displays the benefit of examining the attitude of the reader and highlights the increased context and value it provides.

The final structural signal the current study intends to examine is bullet points. Bulleted lists can be employed to enhance the recall and persuasiveness of a body of text, which in turn can change the attitude and behavioral intention of the reader. According to Jansen (2014) the influence of bulleted lists is that the components which make up the lists evoke the larger context of which they are a part of. For example, a bulleted point list that presents garlic bread, pasta, and ice cream presents these three individual components as parts of a bigger entity, which in this case is a menu. According to Gabriel (2008) in bulleted lists the semantic relationship of the components are often also sequentially related. The list of garlic bread, pasta, and ice cream for example have the common categorization of courses of a meal and are listed in a sequential order, namely: starter, main course, and desert. Furthermore, bulleted lists also require that the components differ in at least one respect, do not overlap and are mutually exclusive. Bullet point structures separate components from each other which has an emphasizing function and distinguishes information into clear constituents. This emphasizing function draws the attention of the reader, who processes the

signals and interprets them as an indication of importance (Lorch, 1989, p. 22). Moreover, Gabriel (2008) found that bulleted lists make bodies of text appear more varied than regular paragraphs, which makes the information easier to digest and more appealing to read. The bullet points also serve as landmarks within the text and become reference points for the readers to remember specific parts of the text.

Despite the effectiveness of bullet points previous literature has failed to consistently demonstrate it. Morrow (1998) found supporting evidence that confirms the positive effect of bulleted list formats on recall. Aula (2004) which was conducted using web search engines found that bulleted lists provided clear benefits, and that participants carried out tasks 20% faster when using a bulleted list. While Goering (2011) investigated the use of bullet points in fundraising letters and found no significant difference on recall but did find a difference in the attitudes towards the ad. The findings underlined that participants preferred bulleted lists because they were easier to read. Furthermore, Jansen (2014) compared bulleted lists and numerical markers on reader evaluation using different text types (health flyers, emails, letters, and recipes). The findings showed that in two of the studies bulleted lists had a negative effect on recall, and in another two studies bulleted lists had a positive effect on reader's evaluation of the text (which comprised of text processing and persuasiveness). This highlights that depending on the text type and context, the optimal structural signal formulation may vary. Accordingly, the current study focuses on an environmental advertisement context. The mentioned literature emphasizes the inconsistent findings with respect to the bulleted lists structural signal and shows why there is a need for further research.

Ultimately, a wide range of previous literature is relatively inconsistent and contradictory. There is a great amount of complexity surrounding the study of structural signals because many previous studies tend to group together different kinds of structural signals, making it harder to identify the effectiveness for the individual structural signals. Thus, isolating them would provide more comprehensive results. Many studies are also limited in their units of measurement and fail to examine the attitude of the reader, which is a key determinant of behavior and an important variable in persuasive communication. Determinants of behavior are described by Fishbein (2003) in the integrative model of planned behavior. The model is a framework for understanding and influencing human behavior and is centered around intention (or motivation). Fishbein explains that a person's behavior is primarily decided by determinants like attitude and behavioral intention, which the current study aims to measure. The model also accounts for demographic factors and

environmental factors that influence behavior and stresses the importance of taking determinants of behavior into account. In addition, knowledge is limited on why there is a difference between recall, comprehension, and persuasiveness, depending on the text structure of arguments. While previous literature shows that there is a difference, the reason for the difference is still to be determined more clearly. Many studies also fail to consider how the context the text structure is placed in, influences the investigation (e.g. newspaper, blog, advertisement). Furthermore, data on the most effective text structure, specifically in a noncommercial text is limited. The current study intends to focus on the specific noncommercial text type – environmental advertising. Finally, previous literature tends to focus independently on either bullet points, numerical markers, regular paragraphs or only compares two of them, whereas very few compared all the above, which the current study aims to do. The current study intends to address the above-mentioned literature gaps.

The purpose of this study is to investigate to what extent the structure of arguments (bulleted lists, numbered lists, paragraph structure) influences the recall and persuasiveness of environmental advertisements. Persuasiveness is measured using attitudes towards the behavior, behavioral intention, and attitude towards the advertisement in accordance with the integrative model of planned behavior. Through these measurements a focused investigation can be carried out on the effects of structural signals. The results of this study will provide increased insight into the most effective ways to frame environmental advertisements and can ultimately provide more information on the most effective way to persuade people to adopt environmentally friendly practices. Findings will also offer increased clarity on the theme and contribute to the limited body of literature on text structure.

The research question this study aims to answer is: “to what extent do visual markers (bulleted lists and numbered lists) influence the recall and persuasiveness of environmental advertisements?” The following hypothesis was formulated:

H1: The use of visual markers will positively influence the recall and persuasiveness of environmental advertisements

Method

In order to answer the research question an experiment was conducted to examine the influence of visual markers on the recall and persuasiveness of environmental advertisements.

Materials

Given the environmental context, the advertisements used as stimulus material in the experiment were centered around the activity of 'deleting your unwanted and unread emails' and tried to persuade the recipients to adopt this behavior. The act of deleting emails was chosen because it is an environmentally friendly practice which many people are unaware of that is a relatively quick and easy behavior to adopt and can benefit the environment. Since the environmental benefits of deleting emails are rarely spoken of and most participants are likely to be hearing about them for the first time, using deleting emails as a theme could potentially provide clearer results and offer more room for behavior to be influenced. Especially in comparison to more traditional environmental advertisement themes like climate change, greenhouse emissions reduction, renewable energy, and recycling had been, which almost everybody has been exposed to already.

The stimulus material comprised of three advertisements (appendix A) to characterize the three different structural signals, namely: bullet points, numerical markers, and a regular paragraph. All three advertisements communicated the same content with four key arguments and differed only in structure. The arguments are that you should delete your emails because: it is good for the environment and deleting 30 emails is the equivalent of saving a lightbulbs daily energy consumption. Moreover, it helps you to filter through your inbox more efficiently which results in faster performance from your computer. Furthermore, 45% of the average person's inbox is spam which has zero value and lastly, emails overload the servers which cause unwanted CO2 emissions (Mathieu, 2012) These arguments were chosen because they were the most relatable to the average person, and the use of statistics in the arguments was deliberately employed to provide increased context and improve persuasiveness.

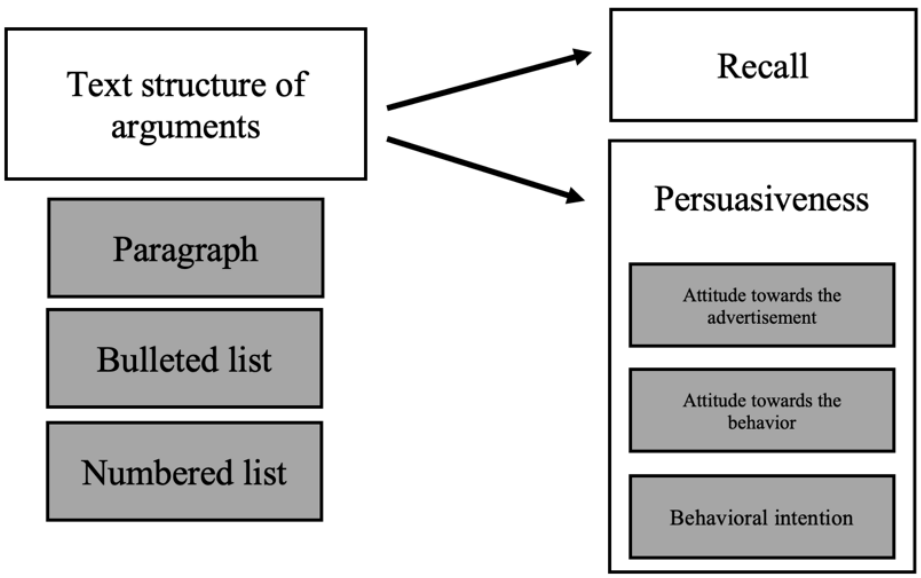
Subjects

A total of N=123 participants took part in the study, the majority of respondents (58.5%) had a bachelor's degree as their highest completed from of education and (Age: *M*=24.79, *SD*= 7.26*;* Range 19 – 56). The participants were 22.8% male, 74.8% female and 2.45% identified as non-binary/ other gender. Out of the N=33 nationalities most of the respondents were either German (41.5%), Dutch (23.6%) or American (4.1%). Moreover chi square tests measuring whether Education (χ^2 (8) = 8.01, *p*= .433), Gender (χ^2 (4) = .779, *p*= .941) and Nationality (χ^2 (64) = 68.41, *p*= .330) characteristics were different across the conditions were all insignificant, so there was no difference between these groups based on these characteristics.

Design

The study consisted of a 1 x 3 between subjects' design. The independent variable text structure of arguments consisted of three levels (Bulleted list - numbered list – paragraph). The analytical model can be found below:

Figure 1. Analytical model



Instruments

The questionnaire used in this experiment which can be found in (Appendix B) comprised of 4 questions in total. *Recall* was measured with an open question taken from Lorch (1986) with the question "Which points did you remember from the ad, write them down in as much detail as possible". Answers were scored on a 0 – 4-point scale and each answer was assigned one point for the first argument if they mentioned one of the three key words: "environment", "energy use" and "co2 emissions" in their response. Answers were awarded a point for the second argument if they mentioned "finding more quickly" or anything related to increased search speed. The responses were rewarded a point for the third argument if they mentioned the key words "run faster", "efficiently" or anything related to increased computer speeds. Lastly, answers were awarded a point for the fourth argument if they mentioned "spam" or that spam has no value and majority of the inbox is useless.

The variable of persuasiveness was measured using three dimensions: behavioral intention, attitude towards the advertisement and attitude towards the behavior. *Behavioral intention* was measured with four items on a 7-point Likert scale taken from Fishbein and Ayzen (2010) with the questions: "I intend to delete my emails regularly from now on" with the answer options definitely not to definitely, "I will delete my emails regularly from now on" with the answer options improbable to probable, "I am willing to delete my emails regularly from now on" with the answer options false to true, and "I plan to delete my emails regularly from now on" with the answer options strongly disagree to strongly agree. The reliability of 'behavioral intention' comprising of 4 items was acceptable $\alpha = .93$.

Attitude towards the advertisement was measured using four items on a 7-point Likert scale taken from Spears (2004) with the question "The ad to me is…" with the answer options appealing to unappealing, good to bad, informative to uninformative and favorable to unfavorable. The reliability of 'attitude towards the advertisement' comprising of 4 items was acceptable $\alpha = .80$.

Lastly, *attitude towards the behavior* was measured using four items on a 7-point Likert scale taken from Fishbein and Ayzen (2010) with the question "deleting my emails from now on is…" with the answer options good to bad, pleasant, to unpleasant, harmful, to beneficial and wise to unwise. The reliability of 'attitude towards the behavior' comprising of 4 items was also acceptable: $\alpha = .83$.

Procedure

The questionnaire was administered online using Qualtrics and subjects were motivated with a brief explanation detailing how the survey was part of the bachelor thesis and that taking part would be a big support. Once confirmation was received that a respondent wanted to participate, they were sent the link to the questionnaire. After the participants followed the link to the experiment, they encountered a briefing document and consent form which detailed who the researchers are, what the questionnaire entails (without disclosing the aim of the investigation), the participants rights, who to contact for further questions and some brief instructions. Provided the participants read the briefing document, read the consent form, and indicated that they understood, they were able to begin the questionnaire. Once the participants started the questionnaire a random generator was used to assign them one of the three conditions. After the participants read their assigned condition (for an unlimited amount of time) and felt comfortable enough to continue, they were asked to answer the questionnaire to the best of their ability. Once the questionnaires had been fully completed and the entries had been recorded the participants received thanks for their participation and our contact information in case they would like to know more about the study or the results. On average the questionnaire took M=4.7 minutes.

Statistical treatment

A one-way Anova of variance test was carried out to measure the influence of text structure on recall. Another one-way Anova of variance test was carried out to measure the influence of text structure on persuasiveness (behavioral intention, attitude towards the behavior and attitude towards the advertisement)

Results

The aim of this study was to investigate to what extent text structure of arguments (bulleted lists, numbered lists, and paragraphs) influence recall and persuasiveness (behavioral intention, attitude towards the behavior and attitude towards the advertisement)
To get a clear picture of the effect of text structure of arguments on recall and persuasiveness statistical tests were ran.

Recall

A one-way Anova of variance test revealed a significant effect of text structure of arguments on free recall (F (2,119) = 6.15, p= .003). The results show that respondents could recall more arguments in the numbered list condition (M=2.65, SD=1.03) than in the bulleted list condition (M=2.60, SD=0.93) and the paragraph condition (M=1.90, SD=1.25) (see table 1). This shows that participants best remembered arguments when a numerical list structure is utilized.

Table 1: The mean and standard deviation for level of free recall across conditions (1= negative, 4= positive)

Condition	*M*	*SD*	n
Numbered list	2.65	1.03	40
Bulleted list	2.60	0.93	43
Paragraph	1.90	1.25	39
Total			122

Persuasiveness

Behavioral intention

A one-way Anova of variance test revealed an insignificant effect of text structure of arguments on behavioral intention (F (2,120) = 1.218, p= .299).

Attitude towards the behavior

A one-way Anova of variance test revealed an insignificant effect of text structure of arguments on attitude towards the behavior (F (2,120) = 2.042, p= .134).

Attitude towards the advertisement

A one-way Anova of variance test revealed an insignificant effect of text structure of arguments on attitude towards the advertisement (F (2,120) = 1.338, p= .266).

Overall persuasiveness

A one-way Anova of variance test revealed an insignificant effect of text structure of arguments on persuasiveness (F(2,120) = .143, p= .867).

Discussion and conclusion

The current section of the paper aims to discuss the main findings of the investigation with respect to previous literature and underline any recurrent patterns and overarching themes. This section also intends to address the research question and hypothesis formulated at the beginning of the investigation. Lastly, some limitations of the study and recommendations for further research are addressed, followed shortly by the conclusion, and closing statements of the investigation.

The aim of the study was to measure to what extent visual markers in the form of bulleted and numbered lists influence recall and persuasiveness. The study did so by presenting an environmental advertisement that differed only in format (bulleted list, numbered list, and paragraph) but contained identical information. The study used a survey to measure the impact of these forms of presentation on recall and persuasiveness of the presented arguments.

The first main finding of the study was that the presence of organizational signals proved to be effective in increasing recall. The results showed a statistically significant effect of text structure of arguments on recall. The descriptive statistics underlined that that respondents could recall the most arguments when they were presented in a numbered list in comparison to an unsigned paragraph. This shows that the type of text structure has a significant impact on the ability of participants to recall the arguments in the advertisement. This finding is in line with previous literature which suggests that signaling has a positive relationship with recall (Myers 1997, Sanders 2007). The finding is also in accordance with Morrow (1995) which compared a numerical marker text structure to an unsigned text structure in product advertisement and found a positive relationship between numerical marker signals and recall. Jansen (2014) also detailed that improved level of recall is because signaling creates more clarity in texts. Moreover, the use of signals means that the components which make up the text, evoke the larger context of which they are a part of. Lorch (1989) showed that the use of signals has an emphasizing function, because it distinguishes the information into clear constituents and draws the attention of the reader to specific elements of the text. By drawing the attention of the reader to a certain component of the text a sense of importance is evoked. Consequently, readers tend to concentrate more on the emphasized component and as a result the arguments can be recalled more effortlessly.

The second main finding of the study was that the text structure of arguments has no significant effect on persuasiveness. The findings revealed that text structure of the

arguments had no influence on the intention of the participants to change their behavior, their attitude towards the proposed behavior or their attitude towards advertisement. This finding contradicts the pattern of previous research. According to Yaffe (2019) using signaling devices and being concise is an effective way to increase the persuasive power of a text. Similarly the Elaboration likelihood model (Petty, 2011) suggests that simpler texts (bulleted list and numerical markers) increase the motivation of readers to process arguments and ultimately increases the likelihood of them to be persuaded. It is also of interest to note that Lorch (1989) established that signaling devices which organize information and text structure (bulleted list and numerical markers) help to direct the reader's attention for an enhanced reading experience. Ultimately, this makes the text more explicit and salient, which improves the reading process and the persuasive power of the text.

However, this contradictory finding could potentially be explained by the integrative model of planned behavior (Fishbein, 2003). According to the model a person's behavior is determined by their intention to perform the behavior, the skills necessary to perform the behavior and environmental constraints. Intention in turn is influenced by attitude, perceived norm, and efficacy beliefs. Only after all three behavioral determinants are met, can a person be persuaded, will their attitude change, and can a change in behavior occur. This model underlines the complexity surrounding attitudes and persuasion and also emphasizes that there are other contributory factors that impact persuasion besides text structure of the arguments. This could potentially explain why text structure may not have significantly influenced persuasiveness in the results.

The study is relevant because it presents results which can be generalized to an environmental advertising context. Environmental advertisement and content creators for example, can apply the findings of the study and utilize organizational signaling techniques in their texts to increase the recall of arguments. As a result, people are more likely to recall the arguments presented and ultimately more likely to change their behavior. The current study also contributes valuable information to the existing literature and ongoing discourse on the environment and how we can improve it.

The research question of the current study asked, "to what extent do visual markers (bulleted lists and numbered lists) influence the recall and persuasiveness of environmental advertisements?" Based on the results, visual markers only affected recall. With respect to the hypothesis that the use of visual markers will positively influence the recall and persuasiveness of environmental advertisement, this only held for recall and there was no significant relationship for persuasiveness.

Despite the insightful results the current investigation has presented, there are some limitations that must be addressed. Firstly, no preliminary study was carried out before the investigation. This means that there was no initial exploration of potential issues related to the proposed study. A preliminary study could have provided more context and measured what the motivation of participants to process the message was, as well as gauge their feelings and sentiments towards the environment and environmental advertisements. These factors could have potentially influenced the results of the study, and a preliminary study would have provided a better understanding of those factors. Furthermore, the survey was administered online via Qualtrics, which also presents limitations. Given respondents were free to respond in their own time however they felt was appropriate, there was no way to monitor whether respondents answered to the best of their ability and whether they were motivated to answer. A lack of motivation could have cause respondents to process the message peripherally instead of centrally. As a result they are not persuaded by the content of the message but rather by the appearance and design, making them less likely to be convinced or remember the arguments.

Some recommendations for further research were formulated as follows. The current study employed 4 arguments for participants to remember and, in the future, using more arguments could provide increased value. Given there was no preliminary study, it is possible that the sample was already motivated and or environmentally invested, leading them to centrally process the message. Consequently, peripheral cues have a less strong effect. If more arguments are used, then a bigger effect can be observed. Furthermore, the current study focused on an environmental context with the act of deleting emails, because it is a quick and easy behavior that can benefit the environment that is rarely spoken of. However, examining other contexts like human rights or consumer issues could also be enlightening. This could provide more extensive information on the best way to frame the advertisements of other socially relevant topics. Additionally, in the future administering the survey in person and on paper would allow for the interviewer to engage participants better and have more control of the environment, which could increase motivation.

In conclusion, the results of the study found that the presence of organizational signals is effective in improving recall which is in line with previous research. Whereas the study also found that text structure of arguments has no significant effect on persuasiveness which contradicts previous research. Overall, the current study has demonstrated the value and benefit of visual markers, despite the complexities surrounding their operationalization.

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Appendices

Appendix A

1. bullet points

2. numerical markers

3. sentence

Appendix B

Questionnaire

1. Recall

   Which points did you remember from the ad, write them down in as much detail as possible

2. Behavioral Intention (Fishbein and Ajzen, 2010)

   I intend to delete my emails regularly from now on

   Definitely not 1 2 3 4 5 6 7 Definitely

   I will delete my emails regularly from now on

   Improbable 1 2 3 4 5 6 7 Probable

   I am willing to delete my emails regularly from now on

   False 1 2 3 4 5 6 7 True

   I plan to delete my emails regularly from now on

   Strongly disagree 1 2 3 4 5 6 7 Strongly agree

3. Attitude towards the ad: (Spears, 2004)

   The ad to me is

Appealing	1	2	3	4	5	6	7	Unappealing
Good	1	2	3	4	5	6	7	Bad
Informative	1	2	3	4	5	6	7	Uninformative
Favorable	1	2	3	4	5	6	7	Unfavorable

4. Attitude towards the proposed behavior (Fishbein and Ajzen, 2010)

Me deleting my emails from now on is:

Good	1	2	3	4	5	6	7	Bad
Unpleasant	1	2	3	4	5	6	7	Pleasant
Harmful	1	2	3	4	5	6	7	Beneficial
Wise	1	2	3	4	5	6	7	Unwise

Statement of own work

Sign this *Statement of own work* form and add it as the last appendix in the final version of the Bachelor's thesis that is submitted as to the first supervisor.

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Place and date: Nijmegen, Netherlands, 10th June 2022