



Research Exposé

Rethink Packaging:

Warning Messages and their influence on purchasing behavior

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Abstract:

This experimental research investigates sustainable packaging (SP) by analyzing the influence of warning messages (WM) on people's purchasing decisions in a number of European nations including Italy, France, Germany, Finland, and as well as in Pakistan. There is more plastic waste entering our environment than ever before, and packaging is the primary source of this waste. This waste has a negative impact on the ecosystem and all living creatures. There have been many previous studies, investigations, and statistical reports which demonstrate that plastic packaging must be phased out since it is contaminating our environment on a massive scale. Non-sustainable plastic is well-known to consumers, yet they continue to purchase it and contribute significantly to the growth of plastic wastage. The solution to this problem is sustainable or eco-friendly packaging. Product warnings give customers pause and encourage them to cut down on their usage. Health warnings on tobacco and alcohol packaging encourage customers to reduce their use since they make them aware of the consequences of their choices, especially at the time of purchasing. As a result, the primary objective of this study is to educate consumers about the environmental consequences of their non-sustainable consumption through warning messages (WM) and determine whether it influences their decision to purchase.

Keywords: Warning Messages, Sustainable Packaging, Purchasing Behavior, Plastic Waste, Sustainable Consumption

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List of Abbreviations

- ✚ Sustainable Packaging (SP)
- ✚ Warning Messages (WM)
- ✚ Theory of Planned Behavior (TPB)

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1. Introduction:

Plastic trash is one of the world's most serious problems, and it is also the most significant contributor to global warming. It has been a topic of debate for some time, but nothing much has been done to address it, and the amount of trash continues to increase. Plastic trash is a very severe issue, and it is the worst kind of waste since it is almost impossible to dissolve it in the natural environment (Asih et al., 2020). All living creatures and the environment is negatively impacts by plastic, a ubiquitous substance in our society. The land and environment are polluted as a result of non-sustainable plastic waste. One method to cut down on plastic waste is to employ warning labels or messaging, which have been shown to alter customer buying habits. By providing information on the label, customers are better equipped to make informed decisions about the products they buy. The majority of product labels and warning warnings deal with the contents of the product or the nutrition it contains. Eco-labeling is concerned with environmental information. Eco-labeling effects consumers behavior. However, warning labels or messaging about environmental safety are more successful at altering a consumer's buying (Do plastic warning labels reduce consumers' willingness to pay for plastic packaging 2020). We know that customers increasingly dislike non-sustainable packaging or packaging that is harmful to the environment, but there is no empirical evidence that this has changed their buying behavior. We are attempting to understand and expand the research area of consumer perceptions of sustainable packaging (SP) by determining whether warning messages (WM) on the packaging, both verbal and non-verbal, have a significant effect on consumers' purchasing behavior and whether consumers are truly eager to purchase products with SP or not. People are more aware of SP, but do they consume in accordance with it? The purpose of this article is to investigate the effect of warning messages (WM) on consumer buying behavior using the theory of planned behavior.

2. Theoretical Framing:

The purpose of this part is to comprehend and define the most essential topics that will be explored during this research. As a result, a greater emphasis will be placed on the concept of "sustainable packaging" and how, given its complexity, it might be difficult for consumers to distinguish sustainable packaging amid a broader variety of package options. The meaning and use of warning messages are clearly covered. Along with consumer behavior, how they respond to sustainable packaging, and what they think about it.

2.1 Sustainable and Non-Sustainable Packaging

Packaging is critical for preserving the integrity of food items throughout transit to end customers. Not only does packaging protect the product's integrity, but it also streamlines the distribution process. The four primary functions of packaging are preservation, communication, convenience, and confinement. As a result of packaging, the goods are better protected from the outside environment while simultaneously conveying information to consumers through written instructions and warnings as well as visuals that fit into their daily lives, for example, ready-to-eat food, and enhance logistic efficiency (Ghaani et al., 2016). If the cautions or messages on the packaging cannot be seen clearly or readily by the consumers, this indicates that the packaging is not performing its message-transmission function properly. In this instance, strong attention should be paid to the warnings, which play a critical role in communicating safety messages to the public (Kovačević et al., 2018). Since 2015, packaging has been a significant marketing strategy because it provides vital information about the goods' components. The profit produced by the food packaging business was $\$839 \times 10^6$ at the time, and it was expected to rise by 3.5% to $\$998$ Billion until 2020. With 85% of the overall packaging industry going to food and beverage packaging and just 10% going to pharmaceutical packaging, the food and beverage packaging sector lead the pack. Due to benefits like flexibility and cheap cost, the food packaging sector has long used non-ecofriendly resources like petroleum to manufacture plastic . However, utilizing non-biological petroleum resources has some drawbacks as well that lead to enormous waste . When it comes to packaging, biopolymers are increasingly taking precedence over petroleum-based alternatives since they utilize renewable/green energy, are less expensive, and can be produced via sustainable means such as agriculture (Qasim et al., 2020).

The SP Coalition defines SP as “Packages that are beneficial, safe, and healthy for persons and communities throughout their life cycle which meet market performance and cost standards. Also use renewable power to source, manufacture, transport, recycle and use clean manufacturing technology” (SPC, 2005) (Elzen et al., 2016). Sustainable or eco-friendly packaging is referred to by various terms, including sustainable design, green package design, and eco-friendly design packaging (Prakash, G., & Pathak, P. 2017). With new environmental protection initiatives, packaging must now safeguard not just the goods but also the ecosystem. Our society requires and desires packaging that is both aesthetically pleasing and environmentally beneficial. Packaging

now serves four distinct marketing purposes. The first objective is to confine and preserve the goods; the second objective promotes the product. Thirdly, it should be user-friendly, and fourthly, it should be recyclable to minimize environmental harm. Consumers are highly aware of the environmental consequences of packaging, and they want environmentally friendly packaging that meets their requirements while simultaneously protecting the environment. Examples of such packaging include those that produce less waste, utilize recycled materials, or are recyclable (Orzan et al., 2018). For a long time, sustainable consumption has been a topic of discussion in society as a whole due to concerns about the environmental consequences. A growing number of customers are concerned about the environmental impact of the products they buy. According to some estimates, 87% of customers are concerned about their non-sustainable purchasing habits. All of this is achievable due to governmental policies and corporate actions that make sustainable production a reality. Although consumer knowledge and information regarding sustainable consumption is growing daily, consumers are not consuming it at the levels that they should be (Abdulrazak, S., & Quoquab, F. 2017). Biodegradable plastic may be a viable option for reducing plastic packaging waste, particularly single-use packaging that cannot be easily separated from organic waste. However, if biodegradable plastics are not handled and disposed of correctly, they may create difficulties in waste management. Additionally, consumer education regarding biodegradable plastics is critical in this situation. People are more conscious than ever of the need of sustainable manufacturing. Which compels authorities to collect recyclables and businesses to create products that are recyclable or made from recycled materials in order to satisfy consumers who favor recycling. Demonstration of recycling may be a good aspect and a motivator (Hopewell et al., 2009). Packaging plays a critical role in raising customer consciousness about the environment in their buying decisions. While ecologically friendly packaging is a primary consideration when purchasing a beverage, it is not yet clear what environmentally friendly packaging means to these customers (Lindh, H et al.,2015).

2.2 Warning Messages:

WM is kind of a label. However, they vary from standard labels because they are intended to communicate information about potential dangers. Just like dictionaries describes warn as a “caution”. The aim of these warnings is to arouse awareness of the dangers and their consequences. However, another study (Ross 1980) asserts that warning is a method of communicating with the

customer, conveying both the dangers and the methods to avoid them. Furthermore, the display of WM does not imply or guarantee that these messages will offer consumers with sufficient knowledge to alter their buying behavior. But Some studies show the changes in the consumer purchasing behavior. There are also some articles or researches that give instructions about how to put warnings on. There are many disputes regarding what constitutes an effective warning; some argue that just delivering the information suffices (Stewart, D. W., & Martin, I. M. 1994).

The most effective method of reducing consumer consumption or use of harmful products is to educate consumers about their effects, which can be explained or demonstrated to them via WM or warning labels on the packaging, referred to as "Information's" intervention in the TIPPME typology for changing environments to change behavior. Some results show that these type of warnings can change the purchasing behavior of consumers (Clarke et al., 2019). Health warning labels are another kind of information that is universally applicable. However, their usage is mostly in the tobacco industry, but their significance in the area of hazardous or dangerous foods and beverages is growing as well (Hollands, Prestwich, & Marteau, 2011; Mantzari, Vasiljevic, Turney, Pilling, & Marteau, 2018; Wigg & Stafford, 2016). Health Warning Labels provide consumers with information that explains the harmful effects of consuming certain products, such as cigarettes, and that if the consumer uses this product, he or she may become very ill. These messages are conveyed either through words and images or just through words alone on the label. It is estimated that almost 118 nations, or 58 percent of the world's population, use a mix of images and words to deliver WM. The findings indicate that these WM have an impact on consumer behavior and have the potential to decrease smoking. The combination of words and images has a far greater impact on WM than the use of just words. By including images into the WM, they become much more effective than plain text warnings and also result in decreased cigarette use (Clarke et al., 2019).

2.3 Consumer Behavior

According to certain research, consumers value goods packaged in environmentally friendly packaging higher (Orzan et al., 2018). Consumers are becoming more concerned about the long-term consequences of their consumption on themselves and the environment (Aitken et al., 2020). Additionally, customers are increasingly conscious of the effect of packaging on resources, energy use, pollution, and trash. (Lawson, 1993). Due to the fact that customers usually judge a brand or

product based on its packaging (Orth and Malkewitz, 2008) many product manufacturers are integrating sustainability ideas into their package designs (Nordin and Selke, 2010). While making purchases, customers make a choice between their own personal well-being and the well-being of the environment. Len Sauers (vice president of sustainability for Procter & Gamble) said: *“There is a very small niche of consumers (5 to 10 percent) who are willing to accept some trade-off (for instance, higher-cost, lesser performance) in order to purchase a product that claims environmental benefits. The vast majority of consumers (50 to 75 percent) feel that environmental issues are important but are not willing to accept such trade-offs”* . Some studies also show that consumers are ready to pay 10% extra for Fair Trade labelled products (Kimura et al., 2010; Zander and Hamm, 2010), but according to the (Grunert, 2011) The high cost of sustainable goods is a significant impediment to buying them (Elzen et al., 2016). Numerous product qualities, such as taste, quality, and price, may influence customers' buying decisions. Not just these features, but also the labeling or messaging on packaging have an effect on buying decisions. Individuals that are more concerned with the sustainable environment or environmental preservation see packaging critically. Furthermore, ecological packaging is not something that their 'judgmental abilities' easily grasp . Packaging's impact on the environment may be seen as a characteristic or aspect of a product, on the basis of which consumers evaluate or rate the product; nevertheless, consumers are also concerned with their own personal advantages, such as convenience of use, while ignoring the environmental consequences. Even those customers who are most worried about the packaging and its impacts on the environment do not buy only on the basis of its sustainability, but rather select the product based on its convenience for them. According to one study, consumers consider environmental sustainability to be the second most important factor when purchasing a product, after price, quality, and convenience. However, according to another study, environmental sustainability is the most important factor for one-third of consumers when choosing or purchasing a product (Lindh et al., 2015).

2.4 Theoretical Background and Alternative Theories

The (TPB) Theory of Planned Behaviour (Ajzen, 1991) is used in this study to understand the influence of WM on purchasing behaviour for environmentally sustainable packaged products. Many prior articles and studies have utilized the TPB to explain the decision-making process in relation to ethical actions (e.g., Randall and Gibson, 1991; Lynne et al., 1995; Chang, 1998; Kaiser

et al., 1999; Kelly et al., 2006; Vermier and Verbeke, 2008; Sidique et al., 2010; Ramayah Lee, and Lim, 2012). Purchases of environmentally friendly goods benefit all living creatures and the environment, therefore it's an ethical choice to purchase them (Hopfenbeck, 1993). Consumers will be provided with environmental knowledge and information via the use of WM. This information will be given to them in a variety of formats, including verbal and graphical, and the change in their buying behavior will be observed as a result of their attitudes. According to the TPB, behavioral intentions show whether or not a person is willing or ready to carry out a certain behavior. Using three determinants: subjective norms, individual's subjective attitude towards a certain activity, and perceived behavioral control, the TPB has shown to be extremely significant for predicting behavioral intention throughout the last several decades (Raab et al., 2021). Alternative theories that can be used for this quantitative experiment research are Theory of Reasoned action (TRA) and Value-Belief Norm Theory.

3. Literature Review:

Prior literatures verified that, according to the most recent NASA data, the surface average temperature increases up to 1.62°F as a result of our emissions into the atmosphere. Due to the Covid19 scenario in recent months, our world has become somewhat more relaxed, demonstrating unequivocally that the rise in pollution is our responsibility (Khan et al., 2020). The usage of plastic packaging is growing at a rapid rate across the world. Global plastic output reached 288 million tons in 2012. It grew to 448 million tons in 2015, 40% of which was single-use plastic, and the majority of which was used for food packaging. Around 90 million tons of plastic waste are discarded or dumped into the seas each year from coastal areas (Nguyen et al., 2020). Plastic is a low-cost material that is durable and can be formed into any shape or size required by the product; as a consequence, its usage has grown significantly in recent years. Plastic is manufactured using a significant amount of non-sustainable energy from the world's oil and gas reserves. Half is used in single-use packaging, demonstrating that packaging is the primary source of plastic trash (Hopewell et al., 2009).

Plastic trash has the potential to cause havoc on the ocean environment. There is evidence that plastic pollution in the seas has an effect on fish diets, which may result in human ingestion of plastic. In 2016 (Trowsdale et al., 2017), the European Food Safety Authority (EFSA) issued a warning about the increasing hazards to human health posed by micro plastic pollution in

commercial fish. Numerous countries, including the United Kingdom (UK), Canada, France, Australia, Taiwan, Kenya, and Zimbabwe, are opposed to and have prohibited the use of single-use plastics (Nguyen et al., 2020).. Each year, pollution increases, and packaging is reported as a major source of waste by 76 percent of businesses polled by AMR Research. These findings indicate that SP is becoming more important for retailers and manufacturers (Elzen et al., 2016). It is rather obvious, particularly for organic customers on whom prior research has been conducted, such as Swedish organic consumers, that they are more environmentally conscious and ready to pay extra money for SP (Lindh et al., 2015). Consumers may help slow or halt the fast growth of solid waste by simply shifting their consumption or buying habits slightly toward eco-friendly goods. Consider environmental sustainability when making purchases may significantly assist in reducing the negative environmental effects caused by non-sustainable goods. One-third of the environmental harm caused by trash is entirely due to non-SP.

According to previous studies, businesses who place a high value on environmental preservation or strive toward environmental sustainability see higher profits and an increase in the number of customers drawn to them. (As a result, large and international companies are currently focusing on developing SP that utilizes recyclable materials in order to minimize environmental harm (Prakash, G., & Pathak, P. 2017).

Table 3.1 (Literature Review Table):

Topic	Year	Authors	Main Findings
A consumer definition of eco-friendly packaging	2020	Anh Thu Nguyen a, Lukas Parker b, Linda Brennan b, Simon Lockrey	From a consumer viewpoint, this research highlights three critical aspects of eco-friendly packaging. These categories will aid producers and marketers of packaged food items in developing consumer-acceptable packaging choices. What is new in this research is the categorization of three critical aspects that represent customers' perceptions of environmentally friendly packaging, namely packaging materials, production technology, and market attractiveness.

Consumers' perception regarding sustainable packaging	2016	Jesse van den Elzen	When assessing goods, the most essential factors to consider are their convenience and ease of use, their packaging type, and their sustainability. Sustainability is determined by the quantity of packaging, its recyclability, reusability, and biodegradability. Plastic is considered to be a less environmentally friendly material than carton, glass, and bioplastic. Significant variations in perceived sustainability were discovered between standard and portion-sized containers. There were no significant differences in terms of sustainability for return ability, recyclability, or biodegradability. The greatest indicators of participants' attitudes toward goods are taste, quality, convenience, and environmentally friendly packaging.
Consumer green behaviour: An approach towards environmental sustainability	2020	Muhammad Shahid Khan, Poramet Saengon, Amr Mohammed Nasser Alganad, Duangkamo Chongcharoen, Muhammad Farrukh	Consumer green behavior is critical for environmental sustainability; if people reject the use of plastic bags, air pollution will substantially decrease; this effort may save the lives of millions of living creatures worldwide. Consumer education and attitude have a role in decreasing the quantity of plastic bags used, which has a beneficial effect on the environment. Environmental degradation solutions need the combined efforts of the government, society, the media, corporate leaders, researchers, and the media, since environmental preservation is everyone's duty at the same

			level. Finally, unsustainable behaviors driven by wasteful runaway consumerism may be mitigated if each person makes modest adjustments to his or her lifestyle and consumption patterns by opting for green goods or services. Thus, each person may make a significant contribution to environmental preservation.
Consumers' behavior concerning sustainable packaging: An exploratory study on Romanian consumers	2018	Gheorghe Orzan, Anca Francisca Cruceru, Cristina Teodora Balaceanu, Raluca-Giorgiana Chivu	According to research findings, two motivating factors saving money via recycling and preserving the environment can affect the choice to choose ecological packaging. The high cost of eco-packaging and a lack of knowledge about its advantages are identified as causes not to purchase it. A significant outcome of this research is the need of educating customers about the long-term advantages of eco-packaging. The research examines consumers' views of ecological packaging, the factors that influence their decision to buy packaged goods wrapped in organic packaging, and potential explanations for observed inconsistencies in green purchasing behavior.
Do prominent warnings make packaging less attractive?	2018	Dorotea Kovačevića, Maja Brozovića, Klementina Možinab	By using this method, we were able to shed light on the effect of the warning's design elements, not only on risk communication, but also on the attractiveness of the package. The findings imply that pictograms should be expanded and thicker to more successfully capture the viewer's attention. If a pictogram successfully captures

			<p>the viewer's attention, it advances to the subsequent stages of efficient safety message delivery. Additionally, our results indicate that highly visible pictograms may be suitable for usage on packaging without impairing the package's aesthetic attractiveness. However, it is not recommended to over-highlight the pictograms, since this may cause consumers to miss other critical information on the package.</p>
<p>Intended and unintended consequences of warning messages: A review and synthesis of empirical research</p>	1994	<p>David W. Stewart and Ingrid M. Martin</p>	<p>Warnings provide a critical informational role. According to empirical study, warning statements raise consumer awareness of possible product risks. Additionally, increased awareness increases the likelihood that customers would take precautions to protect themselves from possible risks. On the other hand, knowledge of warnings does not always result in compliance. A warning message's impact on one set of consumers may be different from its effect on another group. The ultimate social value of a warning is dependent upon the cumulative impact of its effects on all groups who may be exposed to it. This is not straightforward to establish, and little study has been conducted from a social welfare viewpoint.</p>
<p>Plastics recycling: Challenges and opportunities</p>	2009	<p>Jefferson Hopewell, Robert Dvorak, Edward Kosior</p>	<p>End-of-life waste management strategies for plastic goods include recycling. It's becoming more rational from an economic and environmental standpoint, and recent trends show that the</p>

			rate at which plastic trash is recovered and recycled has significantly increased. In spite of these developments, there are still major difficulties to be overcome, including those related to the collection of recyclable trash and the use of recycled materials in place of virgin ones.
Exploring consumers' motivations for sustainable consumption: A self-deterministic approach	2017	Sham Abdulrazak & Farzana Quoquab	All of the interviewees indicated that they have engaged in some kind of sustainable consumption, although to various degrees and in diverse ways. Several prevalent sustainable consumption habits were found throughout the interviews. In terms of purchasing, these included energy-efficient light bulbs, biodegradable home cleansers, sustainably harvested printing paper, and hybrid cars. Reusing plastic containers, recycling printing paper, using public transportation, and using environmentally friendly shopping bags were all common habits. Finally, participants said that they had given old/unwanted things such as furniture, clothing, and electrical equipment to charitable groups and orphanages, in addition to putting their trash in designated containers.
Impact of Health Warning Labels on Selection and Consumption of Food and Alcohol Products: Systematic Review with Meta-analysis	2019	Natasha Clarkea, Emily Pecheya, Daina Kositea, Laura M Königs, Eleni Mantzaria, Anna KM Blackwellc, Theresa M Marteaua, Gareth J Hollandsa	Significant potential exists for reducing the selection of food and alcohol items by including health warning labels on the packaging of these products that convey the negative health effects of use. However, the review evidence had a low

			overall degree of certainty, which means that confidence in the estimated impact is restricted. While the impact was estimated to be a 26% (range: 20%–32%) decrease in the probability of selection, this estimate was based almost entirely on research performed in artificial laboratory or online environments with results evaluated promptly after a single exposure.
Do plastic warning labels reduce consumers' willingness to pay for plastic packaging?	2020	Joanna van Asselt, Yefan Nian, Moonwon Soh, Zhifer Gao, Stephen N. Morgan	Labeling has been proven to influence consumer behavior in a number of contexts by educating customers and empowering them to make educated purchasing decisions. Our research shows that warning labels on plastic packaging have an effect on consumer choice by decreasing customers' willingness to pay for plastic packaging. While our early findings indicate that including warning labels on plastic packaging does indeed decrease consumers' willingness to pay (WTP) for eggs, contrary to our hypothesis, health and safety warning labels resulted in greater WTP reductions than the environment label.
Consumer perceptions of food packaging: Contributing to or counteracting environmentally sustainable development?	2015	Helena Lindh, Annika Olsson, Helen Williams	Material issues obviously dominate Swedish consumers' environmental worries regarding packaging. Paper-based packaging is clearly more eco-friendly than plastic or metal. Consumers say they worry about packaging's environmental effect yet believe it is an issue of material. This shows a lack of

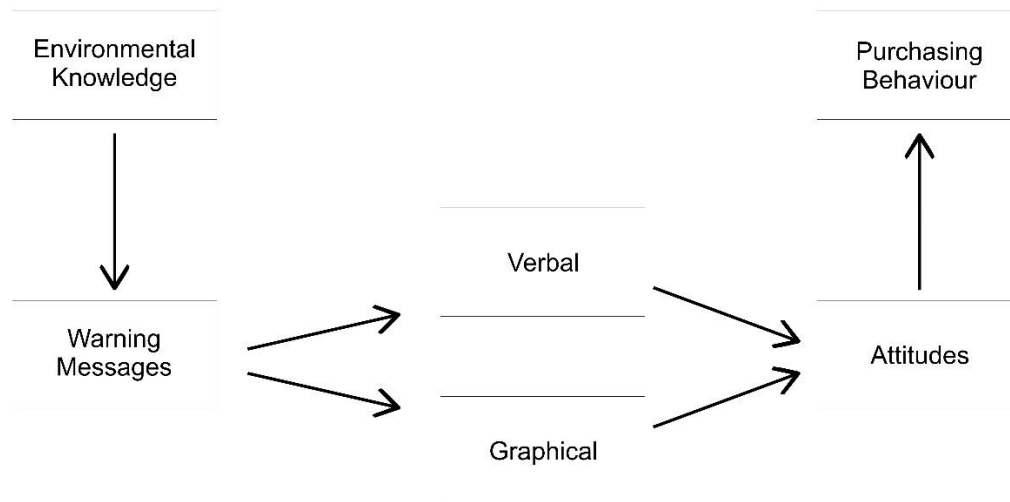
			<p>understanding, since packing material is usually just a minor contributor to a packaged product's environmental effect. This study's findings may reflect the detrimental impact of the EU packaging waste regulation. From this, it can be inferred that neither regulators nor customers view packaging and product as an integrated system. This study's findings contradict prior packaging industry claims that Swedish consumers instinctively believe organic food packaging is ecologically friendly.</p>
<p>Intention to buy eco-friendly packaged products among young consumers of India: A study on developing nation</p>	2017	Gyan Prakash, Pramod Pathak	<p>By integrating other dimensions like as environmental concern and willingness to pay, the research provides a fresh perspective on SP with a focus on a developing country. Indian customers have a favorable attitude toward environmentally friendly packaged goods and are willing to pay a premium for them. However, the packaging industry should constantly include innovative elements to increase the sustainability of packaging. It must improve customers' probability of purchasing products packaged sustainably.</p>
<p>Renewable cellulosic nanocomposites for food packaging to avoid fossil fuel plastic pollution</p>	2020	Umair Qasim, Ahmed I. Osman, Ala'a H. Al-Muhtaseb, Charlie Farrell, Mohammed Al-Abri, Muzaffar Ali, Dai-Viet N., Farrukh Jamil, David W. Rooney	<p>The use of nanocomposites containing plentiful biodegradable fillers and polymers has allowed both academics and industry to develop sustainable goods that may replace polluting synthetic materials. Nanocomposites, particularly those reinforced</p>

			with cellulose (the world's most common biopolymer), have been emphasized as major substitutes for synthetic goods. Transformation
Predicting green product consumption using theory of planned behavior and reasoned action	2020	Daru Asiha, Made Setinib, Mochamad Soeltona, Nilna Munab, I Gede Cahyadi Putrac, Dio Caesar Darmad and Justina Ade Judiarnie	With an increase in knowledge about environmental protection and a rise in environmental consciousness, we may anticipate a more pleasant and clean environment. However, subjective norms do not appear to have a significant effect on the use of green products, which means that perceived social pressure from influential people around consumers would have little effect on pressing for any action, given that respondents tend to have a high level of environmental knowledge and awareness.

4. Research Model and Hypothesis:

Consumers now have access to a lot and different type of information on the environment. In addition, people are becoming more educated about the impacts and benefits of SP; nevertheless, it is still unclear how much information they have about this environmentally friendly packaging and if it is appropriate for them to make an informed decision. Based on this analysis, appropriate information will be given to them in the form of verbal and graphical WM, allowing them to perceive the consequences of non-sustainability on the environment. Once people have grasped this concept, we may examine how their attitudes may influence their buying decisions.

Figure 4.1: WM influencing Consumers Sustainable Purchasing Behavior



Hypothesis:

H1. Consumers choose their preferred brand's product always without thinking or seeing whether the packaging has a negative impact on the environment or not, they will still choose their preferred brand anyway. The packaging of their favorite product may thus affect their behavior, and consumers may purchase different items if they see sustainability WM.

H2. There are numerous items available with a recycling symbol on their packaging, and customers may occasionally purchase these recyclable products specifically. However, can

WM have a greater impact on consumer behavior than positive messaging like as the recyclable symbol on packaging?

H3. Is it true that people care about the environment, or do they only act as if they do? Will a customer still purchase a product that has WM on the package if it is presented to them?

H4. Warning messages will not influence the purchasing behavior of consumer if it is compared with low price.

5. Methodology:

It is described in this section why this particular study design was chosen. All of the processes involved in this study, as well as what distinguishes it from prior studies and why it should be conducted, are detailed below. A detailed description of how it will be performed, as well as the method of data collection and from whom all of the data will be gathered and how it will be used.

5.1 Research design

While dealing with a varied and big sample group, as is required for this study, the experimentation technique will be utilized to generalize the findings. Because previous research has only been conducted on particular regions or on a single country's population, it is not feasible to make assumptions about the buying intentions of the broader public; thus, various nations have been selected. The information will be gathered using an experiment in which two questionnaires will be delivered to two separate groups of people of different countries, including Italians and Germans as well as Finns and Pakistanis but with two different hypothetical packaging images. The questionnaires will be sent online through email and social media. It is intended that only those persons who are good at English will be selected for the questionnaires, and those who are not good at English will not be asked to fill out the questionnaires. What will be the procedure for implementation? A same questionnaire will be sent to two different groups of random people in order to see that the results we receive are same and can be considered for all the people or just for the people of specific area. The first part of questionnaire includes the qualifying questions for the experiment like How good your English is? How old are you? Do you buy sustainable products or do you considered sustainability important? etc. Only the qualified people will able to proceed to the second part of the survey where a hypothetical pictures of packaging will be shown. There will

be WM regarding environmental sustainability displayed on the packaging. A line or title, as well as a graphical representation, that describes how this packaging is not sustainable and how, after being thrown away or used only once, it can have an adverse effect on or damage the environment and cannot be recycled or re-used. During this part, we will ask our respondents whether or not they will change their behavior while purchasing the product if they see these warnings on the package. Is it still worth buying their favorite brand's product if there are two identical products available, one from their favorite brand and one from another brand, but their favorite brand's product has these WM on it? Or might they prefer the product that does not have any WM?



Figure 5.10 (Packaging with Warning Messages)

Some other comparison pictures of packaging will also be used in this survey along with various other question like: Will they choose the one with recyclable packaging over the one without recyclable packaging if they are given the choice? Will they buy their preferred brand even that other brand product has recyclable packaging? Will they choose for the lower-cost alternative even if it has WM on it? Is it worth it for them to pay a little more for a product that comes in environmentally friendly packaging? How many people actually glance at the package or see the recycle emblem on it before they make a purchase?



Figure 5.11 (Recycling Logo Vs Warning Messages)

Assuming a total sample size of 200, 100 questionnaires will be accompanied by first group, while the remaining 100 questionnaires will be accompanied by alternative group. Ultimately, the findings of all completed questionnaires will be collected and compared to one another in order to determine whether or not WM about non-SP have an impact on customer purchasing behavior. Also does WM about SP effects more than the recycling symbols on the packaging or not? Before all this a pre-test will be performed on a small sample to confirm that the instruments are properly implemented and the experiment is going in the right direction. For each question, a 5-point Likert scale will be used to increase response rate and reliability of collected responses while providing a neutral choice.

1. Strongly disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
6. Strongly agree

5.2 Application context

This research will be conducted in a number of countries including Italy, France, Germany, Finland, and Pakistan since we need samples that are diverse in terms of location, gender, and age. The sample size decided for this experiment is 150-200. In these areas, any person above the age of 18 who buys products on his or her own, regardless of his or her status and is good in English is a viable sample. As a result, a large population of the required sample can be easily reached.

5.3 Sample description

150-200 people will be randomly selected from France, Germany, Finland, Italy and Pakistan. Each person in this sample size will not be younger than 18 years old and must do his or her own grocery shopping at least once in a month. As the questionnaires will be made in English all the persons who are selected must understand English. They could be anyone who know or could understand the concept of this experiment and about the recycling packaging like students, Bachelors, House Wife or Job person. Also in this sample everyone included will be able to use internet on their smartphones/laptops because all of them will receive the questionnaire through social media or email.

Data collection procedures

For this research article, the random selection sampling approach has been chosen. Sphinx will be used to collect all of the data and information via online questionnaires. And, because we need to distinguish between two groups of data, we'll apply quantitative data analysis with inferential statistics. The purpose of applying inferential data analysis is to facilitate the development of hypothesis about a situation or phenomena under consideration. The ability to generate conclusions based on extrapolations distinguishes it from descriptive statistics, which essentially report the data that has been collected. In order to distribute surveys, several internet channels such as e-mail, Facebook, Instagram, and WhatsApp will be used to communicate with the target sample.

6 Expected Contributions:

6.2 Scholarly Contributions

The limited sample size has been identified as a drawback in previous research (Orzan et al., 2018). Only two nations were included for the study's sample (Khan et al., 2020). Students from Wageningen University made up 89 percent of those who responded, which may have had an impact on the result since Wageningen University is renowned for its sustainability image (Elzen et al., 2016). Only Malaysian consumers were explored in terms of their motivations for sustainable consumption; however, samples from different countries could help us understand whether these motivations are common throughout the world and whether they are present in the consumers of other countries or are not. Even if consumers are encouraged to engage in sustainable consumption, they are not engaging in sustainable consumption to the level that they should be. The reasons for this must be recognized and addressed (Abdulrazak, S., & Quoquab, F. 2017). Samples from various and more than one nation will be taken to cover the gaps left by past studies and investigations. This will allow us to obtain findings that can be applied to everyone, not just those in the study region. Future researchers will have access to updated information on consumer purchasing habits. There has been no research on whether or not WM influence customer buying behavior. Consumers' worries about a sustainable environment will finally be answered, and it will be clear whether or not they are willing or able to shift their consumption towards sustainability in order to preserve the environment.

6.3 Implications for Business and Society

Future research could be on products with a higher level of purchase involvement. Additional study on customer perceptions of eco-friendly packaging may provide insight on the brand image impact. Because customers are/can be affected at the time of purchase by well-known brands, understanding brand image and its impact on consumers' buy intentions for eco-friendly packaging may assist explain the complexities of green consumer behavior (Nguyen et al., 2020). With the information in this paper, companies will have a better understanding of consumer behavior. They will also have an idea of how many and what kind of actions they need to take towards SP in order to attract customers. As a result, the government or other public authorities will have additional pillars on which they may compel or coerce companies into adopting more environmentally friendly packaging or into including WM on their non-SP. In order for customers to understand what they are purchasing and for the usage of plastic packaging to be minimized.

7 Chapters Overview:

In this section an overview and short summary of all the parts of this expose is mentioned.

Introduction: Plastic is the world's largest waste issue, and it is growing at an alarming rate. Numerous businesses and government authorities make numerous statements and attempt numerous actions to decrease or eliminate it, but nothing really happened. Packaging is the primary source of plastic waste. Consumers, too, want to resist this, but there is no way to know for certain that they are making a difference. Additionally, it is unclear if they possess sufficient and appropriate understanding regarding environmental sustainability. What we're aiming to do is educate people about the importance of packaging and a sustainable environment, and then analyze whether or not these WM have an effect on their buying behavior using the Theory of Purchasing Behavior.

Theoretical Framing: Packaging is a tool for preserving, distributing, and communicating with customers, but it also serves another purpose: environmental protection. And as a result, packaging is evolving to more sustainable forms in order to preserve the environment. Numerous warning statements and labels are included on packaging to inform customers of the product's effects on them, which results in decreased consumption. Which demonstrates that warning labels on packaging or products may have an effect on customers' buying decisions. To determine whether

or not the warning statement on the packaging has an effect on the consumer's purchasing behavior, we are using the Theory of Purchasing Behavior.

Literature Review: According to past research and studies, there are many claims that plastic packaging trash is significantly damaging our environment. It has a detrimental impact on not just ourselves, but also on our environment and all living things. While some businesses are developing eco-friendly or SP, we need a comprehensive approach to ensure that every business switches entirely to SP. Consumers, too, may make a significant impact simply by shifting their purchases toward sustainability. Additionally, prior study has shown that businesses who provide sustainable goods or packaging make a higher profit and have a larger market share.

Research Model: Consumers today have a plethora of data on the environment, but whether it is sufficient for them to make sound judgments remains an open issue. Through verbal and visual WM, relevant information will be given to the customers to help them understanding the effect of non-sustainability on the environment and through which we can analyze their influenced or un-influenced behaviors toward sustainable buying.

Methodology: This section discusses why this study design was chosen. It is an experimental study in which two random groups from different nations will be chosen. Two identical surveys will be sent to them, but with different presumed packaging, one with environmental warning statements and one without, in order to collect data on whether or not the WM have an effect on their buying behavior.

Expected Contribution: All of the gaps that have been left by past research and publications, such as those that have been done primarily on consumers in a particular region or nation, are discussed in this section. We all know and have read in numerous articles that consumers desire sustainability for the environment, but there is no evidence that they really use or wish to consume sustainable goods, or that they even know what sustainable products are. And is there any method to find out whether or not customers can alter or convert their consumption towards environmentally friendly products.

8 Work Plan:

Table 8.1 (Plan of Work):

Plan of Work - EMBS Master Thesis					
ACTIVITIES	September	October	November	December	January
Reading	■	■	■		
Methodology		■	■		
Writing Data Collection Writing			■	■	
Presentation				■	■
Deadlines		■			■

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