Content Analysis of the Use of Environmental Claims and Message Framing in Green Marketing Communications on Thai Corporate Websites

Chanapa Itdhiamornkulchai
Saravudh Anantachart*

Abstract

*T*he present study conducts exploratory research on green marketing communications in Thailand. By applying the typology of environmental claims of Carlson et al. (1996) and the message framing of Tversky and Kahneman (1981), content analysis is conducted on Thai corporate websites of companies listed on the Dow Jones Sustainability World Index (DJSWI) 2020 that contain green marketing communications written in Thai, which is 51 out of 323 companies on the DJSWI 2020. Findings indicate that the use of substantive claims is significantly higher than the use of associative claims, and most webpages use gain frames. Combinations of environmental claims are less used than single types of environmental claims on each webpage. To enhance the first impression of authentic environmental sustainability, companies that only provide image orientation claims in their green marketing communications could consider adding substantive claims on the same webpage by providing specific information on the tangible environmental attributes of their products and processes. Future studies could examine Thai consumers' perceptions of these real examples of green marketing communications as well as conduct content analysis of official social media accounts of companies that operate in Thailand.

Keywords: Green Marketing Communications, Environmental Claims, Message Framing, Corporate Websites, Content Analysis

Chanapa Itdhiamornkulchai (M.Sc., Imperial College London, U.K., 2018; chanapa.i@chula.ac.th) is Doctoral Candidate, Faculty of Communication Arts, Chulalongkorn University. (ORCID ID: 0000-0003-2082-1482) and Saravudh Anantachart* (Ph.D., University of Florida, U.S.A., 1998) is Associate Professor of Faculty of Communication Arts, Chulalongkorn University (ORCID ID: 0000-0002-8810-0780)

*Corresponding Author Email: saravudh.a@chula.ac.th

Introduction

In the twenty-first century, consumer demands for corporate sustainability practices have increased globally, especially regarding environmental factors (CGS, 2019; Nielsen, 2015). Corporate sustainability is defined as the "capacity of firms to contribute to global sustainable development and all the challenges regarding economic, social and environmental interconnections together with short, medium and long term aligned and conflicting demands" (Morioka et al., 2016, p. 659). Market research conducted by Computer Generated Solutions company (CGS), entitled the CGS 2019 Retail and Sustainability Survey, found that 68% of Generation Z U.S. respondents stated that they had purchased an eco-friendly product within the past year. The Nielsen Global Survey of Corporate Social Responsibility and Sustainability (2015) revealed that 66% of global respondents were willing to pay higher prices for products and services from sustainable brands, reflecting a 16% increase from 50% in 2013. Moreover, among these sustainable consumers, the majority responded that they are heavily influenced by environmental sustainability attributes of products (69%), companies (58%), and packaging (53%), as well as social sustainability attributes of commitment to social value (56%) and commitment to the respondents' community (53%) (Nielsen, 2015). Concurrently, 45% of sustainable consumers responded that are heavily influenced by television advertisements about social and/or environmental sustainability practices of the company (Nielsen, 2015).

Furthermore, CGS's 2019 Retail and Sustainability Survey revealed that 31% of U.S. consumers rate the use of eco-friendly materials as the most important factor when evaluating a brand as sustainable, which is twice the percentage of consumers who prioritize ethical practices of a brand (15%) and more than 3.5 times higher than consumers who prioritize a brand's donations to good causes (8.8%), both of which are social dimensions. All of these consumer insights indicate the importance of communications concerning environmental sustainability benefits that companies offer to stakeholders in society.

Meanwhile, sustainability communications from organizations influence stakeholders' perceptions of corporate sustainability (Dach & Allmendinger, 2014; Peloza et al. 2012). Therefore, it is essential for brands to use effective communications strategies to gain trust from their stakeholders. Recent studies have conducted content analysis of green marketing communications and/or advertising in many countries, especially the types of environmental claims (e.g., Baum, 2012; Kim & Han, 2016; Leonidou et al., 2014; Prasad et al., 2017; Seelig et al., 2019; Segev et al., 2016) and message framing (e.g., Chang et al., 2015; Segev et al., 2015; Tong et al., 2020).

The present exploratory research aims to contribute to this body of knowledge by conducting content analysis of environmental claims and message framing used in green marketing communications in a less studied country – Thailand, specifically the official Thai websites of companies. With 75% Internet penetration in 2020 (Kemp, 2020b), Thailand ranks fifth globally in the average daily amount of time that people use the Internet at 9.01 hours compared to the global average of 6.45 hours per day (Kemp, 2020a). This high Internet usage rate indicates the importance of online green marketing communication for reaching environmentally-

conscious Thai consumers. In 2020, the research findings by Mahidol University in Thailand revealed that 37.6% of Thai consumers responded that they regularly value sustainability, especially environmental factors, for their purchase decisions, consumption, and lifestyles, while 61% responded that they have begun to consider the environmental impact of their behaviors (SD Perspectives Lifestyle Sustainability, 2020).

Environmental attributes that were increasingly popular among Thai consumers in 2020 include biodegradable and reusable products, clean energy products and services, and other environmentally-friendly products and services (SD Perspectives Lifestyle Sustainability, 2020). Among environmentally-conscious consumers in Bangkok, 80% of respondents stated that they were willing to pay extra for cost-effective energy-saving products, 73% intended to reduce threats to the environment, and 70% were ready to recycle (Synovate Thailand, as cited in Positioning, 2011). A segmentation study of consumers in Chiang Mai province of Thailand found that 56% of consumers are sustainable consumers and 27% are starting to become sustainable consumers (Puangkingkaew & Tantiprabha, 2018). Therefore, the present research on environmental claims and message framing used on Thai corporate websites will provide insights and implications about green marketing communications in Thailand.

Specifically, this exploratory study aims to address the following research questions. First, which types of environmental claims are used in green marketing communications on Thai corporate websites? Second, which types of message framing are used in green marketing communications on Thai corporate websites?

Literature Review

Green Marketing

Since the late twentieth century, the definition, scope, and practices of green marketing have evolved through three eras: (1) ecological marketing (1975 to 1989), (2) green marketing (1990 to 2000), and (3) sustainable marketing (2001 to present) (Katrandjiev, 2016). Initially, the ecological marketing era attempted to solve a narrow range of environmental problems, including reducing air pollution and resource consumption, and was limited to specific environmentally-sensitive industries. Subsequently, the green marketing era integrated a wide range of environmental and social sustainability issues for companies to tackle throughout their 4P's marketing mix (product, price, place, and promotion) processes while generating profit. The concepts of eco-friendly products and environmentally-conscious "green" consumers emerged in the green marketing era. Finally, the contemporary sustainable marketing era provides the most holistic approach to green marketing strategy throughout the processes of planning, implementation, and communication to fulfill the needs of sustainable consumers simultaneously with delivering economic, environmental, and social benefits (Dangelico & Vocalelli, 2017; Katrandjiev, 2016; Noo-urai & Jaroenwisan, 2012). The systematic review of Dangelico & Vocalelli (2017) found a rapid surge in the number of published green marketing articles from 2008 to 2015 with the highest number of studies in 2012. This reflects the increasing demand for research in this area.

Green Marketing Communications

Green marketing communications is defined in this study as the promotion element of the 4P's marketing mix of green marketing from an

organization that is concerned with sustainability, especially the environment. Ham (2011) analyzed that promotion, or communication, has been controversially criticized concerning credibility. Other terms used to refer to green marketing communications include environmental communication and business environment communication (Lanfranchi et al., 2017), as well as environmentally oriented marketing communications and business environment communication (Ham, 2011). Green marketing communications include various forms of marketing communications, not only advertising (Lanfranchi et al., 2017) but also public relations, publicity, sales promotion, and direct selling (Ham, 2011).

Websites have been examined in recent studies on online green marketing communications (e.g., Biloslavo & Trnavčevič, 2009; Seelig et al., 2019; Yu et al., 2013). Other studies focused on green advertising by examining print advertisements based on the definition of green advertising by Banerjee et al. (1995, p. 22) as follows: "any ad that meets one or more of the following criteria: (1) explicitly or implicitly addresses the relationship between a product/service and the biophysical environment, (2) promotes a green lifestyle with or without highlighting a product/service, and (3) presents a corporate image of environmental responsibility" (e.g., Kim & Han, 2016; Segev et al., 2016; Seelig et al., 2019). Recent studies that conducted content analysis of green marketing communications and/or advertising in many countries have utilized the concepts of the types of environmental claims and message framing, both of which will be elaborated in the sub-sections here below.

Environmental Claims in Green Marketing Communications

A typology that has been widely used to study green marketing communications, especially messages used in green advertising, is the types of environmental claims proposed by Carlson, Grove, and Kangun (1993) and subsequently developed by Carlson, Grove, Kangun, and Polonsky (1996). Initially, Carlson et al. (1993) categorized environmental advertising claims into four types: (1) product orientation, (2) process orientation, (3) image orientation, and (4) environmental fact. Also, the fifth category, "combination," was created to categorize messages that comprise more than one type of environmental advertising claim (Carlson et al., 1993). Afterward, Carlson et al. (1996) grouped the first two categories, product orientation and process orientation, into substantive claims and the latter two categories, image orientation and environmental fact, into associative claims. While Carlson et al. (1996) did not include advertisements that used combinations of substantive and associative claims in their content analysis, this category was used in several recent studies (e.g., Kim & Han, 2016; Seelig et al., 2019).

Substantive claims are defined as informational messages that present concrete and tangible environmental benefits that an organization offers (Carlson et al., 1996). This includes product orientation, which is the communication of the attributes of the product that are good for the environment (Carlson et al., 1993). Examples of product orientation claims include "This product is biodegradable" (Carlson et al., 1993, p. 31) and "Low emission/no emission" (Leonidou et al., 2014, p. 677). Another type of substantive claim is process orientation, which refers to information about the environmental attributes of the practices,

technologies, and raw materials used in the manufacturing, distribution, and disposal processes (Carlson et al., 1993). Examples of process orientation claims include "Twenty percent of the raw materials used in producing this good are recycled" (Carlson et al., 1993, p. 31) and "low energy consumption factory" (Leonidou et al., 2014, p. 677).

Associative claims are defined as messages intended to create positive perceptions of an organization's eco-friendliness in intangible ways that are not directly concerned with the environmental benefits of its products and processes (Carlson et al., 1996). This includes image orientation, which refers to messages that associate an organization with causes or activities related to the environment that the general public tends to care about (Carlson et al., 1993). Examples of image orientation claims include "We are committed to preserving our forests" (Carlson et al., 1993, p. 31), "We urge that you support the movement to preserve our wetlands" (Carlson et al., 1993, p. 31), "we are committed to the environment" (Seelig et al., 2019, p. 2), and "a company's work with organizations to ensure protection and conservation of Olive Ridley turtles in the Bay of Bengal" (Prasad et al., 2017, p. 477). Another type of associative claim is called environmental fact, which refers to statements that provide information about the environment that does not directly involve the brand (Carlson et al., 1993). Examples of environmental facts include "The world's rain forests are being destroyed at the rate of two acres per second" (Carlson et al., 1993, p. 31) and "increase in global warming levels" (Leonidou et al., 2014, p. 678).

Subsequent to the original content analysis of Carlson et al. (1993) on environmental advertising claims of U.S. magazine advertisements published from 1989 to 1990, Segev et al. (2016) replicated the content analysis of Carlson et al. (1993) by examining similar U.S. magazine advertisements published 20 years later in 2009 and 2010. Both studies found that the majority (less than half) of environmental advertising messages contained image-oriented claims and merely approximately one-tenth used process-oriented claims (Carlson et al., 1993; Segev et al., 2016). The distinctive differences are the increase in the proportions of product orientation claims from 26% to 37.6% and the decrease in the proportion of environmental facts from 33% to 7% in the studies of Carlson et al. (1993) and Segev et al. (2016), respectively. This indicates that contemporary green advertising tends to associate environmental attributes to the brand directly rather than providing information about the environment in general. Another interesting finding was the increase in the number of environmental advertising claims that are considered acceptable in the study of Segev et al. (2016) compared to the original study of Carlson et al. (1993). Segev et al. (2016) analyzed that this implied that environmental claims have gained increasing acceptance.

In addition to research in the United States, the types of environmental claims of Carlson et al. (1993, 1996) have also been examined in other countries. The cross-national study of Carlson et al. (1996) revealed that while the majority of environmental advertisements in U.S. magazines used associative claims (image orientation and environmental fact), environmental advertisements from other native-English speaking countries, specifically Great Britain, Canada, and Australia, comprised higher proportions of substantive claims than associative claims.

Moreover, substantive claims from these three countries contained higher proportions of product-oriented claims than process-oriented

claims (Carlson et al., 1996). Similar to Segev et al. (2016), environmental facts are least found and account for approximately one-tenth of advertisements in Australia and Canada (Carlson et al., 1996). Consistently, for magazine advertisements of multinational industrial firms, product orientation is used the most, followed by process orientation, image orientation, and environmental fact (Leonidou et al., 2014). Kim and Han (2016) also found that over half of environmental claims in Korean print advertisements are substantive claims, followed by associative claims, while combinations of both substantive and associative claims are least used.

In addition to print advertisements, the study of Seelig et al. (2019) applied the typology of environmental advertising claims of Carlson et al. (1996) to analyze the entire website as the unit of analysis of green marketing communications, in which the content on the webpages of each website does not have to be advertisements. Seelig et al. (2019) found that more than half of websites of skin care and cosmetics products used associative claims of image orientation, followed by the use of substantive claims of process orientation and product orientation, while environmental facts were used the least. While the unit of analysis and scope of industries of Seelig et al. (2019) differed from Segev et al. (2016), similar patterns in terms of proportions of each type of environmental claim have been found.

Moreover, Yu et al. (2013) applied the typology of Carlson et al. (1996) to analyze the use of substantive and associative claims in environmental communications on the websites of Fortune 500 companies and found that these companies used higher quantities of substantive claims compared to associative claims. The unit of analysis of Yu et al. (2013) was limited to the first three levels of webpages, specifically the homepage (referred to as the first level), the landing page of a click from the homepage (referred to as the second level), and the landing page of a click from the second-level webpage (referred to as the third level). Another study that conducted content analysis of green marketing communications on websites is Biloslavo and Trnavčevič (2009), in which the unit of analysis is sustainability sections of each website; however, this study did not use the typology of environmental advertising claims.

For the present research, the typology of environmental advertising claims will be applied to address the first research question, "*Which types of environmental claims are used in green marketing communications on Thai corporate websites?*"

Message Framing in Green Marketing Communications

Message framing, which is the way a message is written to convey the effects of taking an action, has been examined in several studies on the effects of green marketing communications (e.g., Chang et al., 2015; Segev et al., 2015; Tong et al., 2020). The concept of message framing has been derived from the original prospect theory of Tversky and Kahneman (1981), which found differences in responses to messages that state positive effects of taking an action (referred to as gain frames) compared to messages that state negative effects of not taking an action (referred to as loss frames).

For marketing communications, the effectiveness of gain frames and loss frames depends on several factors. Segev et al. (2015) found that environmental messages that used the gain frame were more effective than ones that used the loss frame in terms of not only creating favorable responses toward the advertisement and the brand

but also increasing purchase intentions. Regarding the use of loss frames, Segev et al. (2015) found that loss frames that focus on self-referencing to the individual consumer are more effective than ones that use environmental-referencing.

In addition, Chang et al. (2015) found that the effectiveness of the message framing strategy increased among consumers with high environmental concern when it is congruent with the construal level, which is the temporal distance of the time frame of the effect of the action. Specifically, gain frames were more effective for messages that communicate high construal levels (long-term future), while loss frames were more effective for communications of low construal levels (near future) in green advertising messages (Chang et al., 2015). Subsequently, the findings of Tong et al. (2020) revealed that for situations with close spatial distances, gain frames were more effective for enhancing willingness to purchase green products compared to loss frames because gain frames elicited hope. For situations with far spatial distances, loss frames were more effective in terms of willingness to purchase green products by eliciting shame, while gain frames were more effective for enhancing environmental awareness by triggering pride (Tong et al., 2020).

In this paper, content analysis of the number of gain frames and loss frames will be used to address the second research question, "*Which types of message framing are used in green marketing communications on Thai corporate websites?*"

Methodology

Similar to the previous studies cited in the literature review, content analysis was conducted in the present research to examine environmental claims and message framing of green marketing communications on Thai corporate websites.

Criteria for Selecting the Sample of Companies

Two main criteria were used to select the companies for this content analysis. First, the sample was selected from the 323 companies listed in the Dow Jones Sustainability World Index (DJSWI) 2020 by obtaining the entire list from the PDF file at https://thaipublica.org/wp-content/uploads/2020/11/DJSIComponentsWorld_2020_.pdf that is available to the public. The DJSWI was chosen because all companies listed on this index need to meet global standards for environmental, social, and economic areas of sustainability (S&P Dow Jones Indices, 2021), which implies that these companies strategically plan and implement practices that have environmental benefits. English websites of companies from the DJSWI have been examined in several previous studies on sustainability communications (e.g., Siano et al., 2016; Palazzo et al., 2019; Vollero et al., 2020). Therefore, it would be noteworthy to examine the extent of these companies' green marketing communications to the general public of Thai consumers via their official websites. Hence, another criterion was the company must have an official Thai website that contains green marketing communications written in Thai. This is determined by conducting a Google search using the keywords of the company name followed by the word "Thailand" (in Thai language) for each of the 323 companies listed on the DJSWI 2020, such as "Honda Motor Co., Ltd., Thailand." Ultimately, 51 webpages from 51 companies from 18 industry groups correspond to these two criteria and were used for the content analysis.

Unit of Analysis

The unit of analysis used in the present exploratory study is a part of a webpage from the official Thai website of each company that is written in Thai and contains green marketing communications within the size that fits into one screenshot on a 15-inch computer screen. The rationale for using one screenshot from each brand instead of multiple webpages is so that each company will be treated equally as one unit of analysis of approximately the same size regardless of differences in quantity and length of environmentally-related webpages of each website.

The procedure for selecting the webpage from each Thai corporate website begins from the homepage. If the homepage contains green marketing communications in the form of texts and visuals, the screenshot will be captured from the homepage. If the homepage does not contain green marketing communications, the link on the homepage that signals green marketing communications will be clicked, and a screenshot will be captured from the webpage that is linked to the homepage. Similar to Yu et al. (2013), the number of clicks taken to reach the webpage that contains green marketing communications was limited to three levels (no more than two clicks) due to the tendency for consumers to only focus on these three levels when browsing corporate websites.

Content Categories

Content categories have been designed to meet standards of mutual exclusivity and exhaustivity (Wimmer & Dominick, 2014). Initially, in the first stage, each webpage was categorized into main types of environmental claims, which are substantive claims or associative claims by applying the typology of Carlson et al. (1996), as well as the third category entitled "both substantive and associative claims" that was used by Kim and Han (2016) and Seelig et al. (2019). Since each unit of analysis has to be coded as only one of these three options: (1) substantive claims, (2) associative claims, or (3) both substantive and associative claims, the main types of environmental claims are mutually exclusive and exhaustive.

Subsequently, the sub-types of environmental claims were coded based on the definitions of Carlson et al. (1993), which were the same definitions used by Carlson et al. (1996), as well as by operationalizing the "combination" concept of Carlson et al. (1993) to create three sub-categories that are mutually exclusive and exhaustive. First, if the unit of analysis was coded as a substantive claim in the previous step, one of these three sub-types of substantive claims must be selected: (1) product orientation, (2) process orientation, and (3) both product and process orientation. Second, if the unit of analysis was coded as an associative claim in the previous step, one of these three sub-types of associative claims must be selected: (1) image orientation, (2) environmental fact, and (3) both image orientation and environmental fact. Finally, if the unit of analysis was coded as "both substantive and associative claim" in the previous step, one of the three sub-types of substantive claims as well as one of the three sub-types of associative claims must be selected.

Finally, for message framing, one of these three options can be selected: (1) gain frame, (2) loss frame, and (3) both gain and loss frames. Although previous studies on message framing of green advertising identified each advertisement as either the gain frame or the loss frame (e.g., Chang et al., 2015; Segev et al., 2015; Tong et al., 2020), the

reason for adding the third option in the present study is the difference in the unit of analysis. Since each green advertisement in those studies contained one key message, it was appropriate to identify only one type of framing for each message. However, for other forms of communication, there could be up to three key messages on each page (Harrison, 2020; Wetherhead, 2012). Hence, the third category entitled "both gain and loss frames" was added in this study in case some webpages used different types of message framing for each key message on the same webpage

Coding Procedures

First, a coding manual was written in Thai to provide written explanations of the operational definitions and steps for coding the preceding content categories. Next, coding sheets were created at the size of one landscape A4 page for each unit of analysis. On each page, a screenshot of one of the 51 webpages was inserted beside a table for filling in the coding responses. Two independent coders of the present research were one of the researchers and a master's student in communication arts who has been a graphic designer for more than five years. Next, a 50-minute training session was organized via *ZOOM Cloud Meetings* video conference to verbally explain the coding instructions to the coder while sharing the screen of the coding manual. During the training,

both coders practiced coding three examples of green marketing communications in Thai from webpages that were not included in the actual content analysis and discussed their responses. Subsequently, both coders took approximately 2.5 hours to independently code all 51 webpages using the electronic coding sheet and coding manual that were distributed in both Microsoft Word and PDF versions. Using the formula of Holsti (1969, as cited in Wimmer & Dominick, 2014), the intercoder reliability was .71 for the type of environmental claim, .91 for the type of associative claim, .52 for the type of substantive claim, .90 for the type of message framing, and .70 overall. The intercoder reliability level of .70 is appropriate for exploratory studies (Wimmer & Dominick, 2014). Ultimately, disagreements were resolved through a 1-hour video conference between both coders via *ZOOM Cloud Meetings* platform to reach a consensus.

Results

To address the first research question regarding the types of environmental claims used in green marketing communications on Thai corporate websites, the frequencies and percentages of the main types and sub-types of environmental claims used are displayed in Table 1 and Table 2, respectively.

Table 1 Main Types of Environmental Claims Used on Thai Corporate Websites

Main Types of Environmental Claims	Frequencies	Percentages
Substantive claims	29	56.9
Associative claims	15	29.4
Both substantive and associative claims	7	13.7
Total	51	100.0

As shown in Table 1, more than half of environmental claims on Thai corporate webpages were substantive claims (56.9%), followed by associative claims (29.4%), and combinations of substantive and associative claims were used the least (13.7%). Differences in the proportions of usage of these three main types of environmental claims were significant at the .001 level (χ^2 = 14.588).

Table 2 *Sub-types of Environmental Claims Used on Thai Corporate Websites*

Main Types of Environmental Claims	Sub-types of Environmental Claims	Frequencies	Percentages
Substantive claims	Product orientation	12	23.5
	Process orientation	11	21.5
	Both product and process orientation	6	11.8
Associative claims	Image orientation	14	27.4
	Environment fact	1	2.0
	Both image orientation and environmental fact	0	0.0
Both substantive and associative claims	Product and image orientation	1	2.0
	Process and image orientation	5	9.8
	Product, process, and image orientation	1	2.0
Total		51	100.0

As displayed in Table 2, three-quarters of Thai corporate websites used a single sub-type of environmental claim on the webpage. Specifically, the top three most common sub-types of environmental claims used on Thai corporate websites were image orientation (27.4%), followed by product orientation (23.5%) and process orientation (21.5%), while only one webpage used environmental fact (2.0%). Concurrently, a quarter of webpages used combinations of sub-types of environmental claims: both product and process orientation (11.8%), both process and image orientation (9.8%), both product and image orientation (2.0%), and a combination of product, process, and image orientation (2.0%). Examples of environmental claims used on corporate websites of each of the 18 industry groups are shown in Table 3 by creating English translations of the Thai messages of each company.

Table 3 *Examples of Environmental Claims of Companies in Each Industry Group*

Industry Group	Number of Companies	Example of Environmental Claim (Translated from Thai to English)
Automobiles & Components	3	**Substantive claim:** *product orientation* "*BMW iX* releases less amount of greenhouse gases by 45% compared to an SAV that uses diesel engine."
Banks	2	**Associative claim:** *image orientation* "*Kasikorn Bank* incorporates the concept of sustainable development in the economic, social, and environmental dimensions for business operations."
Capital Goods	7	**Both substantive and associative claims:** *both product orientation and image orientation on the same webpage* *Image orientation*: "Our objective is to unlock the special potential of lighting in brightening the quality of life and making the world a better place to live in." *Product orientation*: "We distribute high-quality energy-efficient light bulb products and lighting equipment."
Commercial & Professional Services	2	**Substantive claims:** *both product orientation and process orientation on the same webpage* *Process orientation*: "We support environmental conservation by helping organizations reduce carbon footprint with the stance of changing energy sources and providing renewable energy and alternative energy services throughout the entire supply chain." *Product orientation*: "*Bureau Veritas* creates sustainable changes to the community by providing services of testing, evaluations, and certifications of constructions and buildings, certifications of green buildings, management of the efficiency of constructions, and services concerning the lifespan of constructions. These services help extend the lifespan of buildings and constructions through new restorations and support organizational changes with plans to reduce energy consumption."
Consumer Durables & Apparel	3	**Substantive claim:** *product orientation* "Products have been designed to reduce environmental impacts throughout the product lifespan by regularly inspecting the amount of waste and pollution from the consumption of resources and energy to improve products to be more eco-friendly."

Table 3 (continued)

Industry Group	Number of Companies	Example of Environmental Claim (Translated from Thai to English)
Consumer Services	1	**Substantive claim:** *process orientation* "Our experts in the purchasing department seek more regional and seasonal food ingredients. We are proud to increase fresh products that are ready for consumption, reduce environmental impacts, and participate in developing the agricultural community to grow together with us."
Energy	2	**Associative claim:** *image orientation* **Message framing:** *both gain and loss frames on the same webpage* *Loss frame*: "For many years, the lungs of nature have been deteriorating amidst changes, and if no one starts taking any action, everything might be too late…" *Gain frame*: "*PTTEP* adheres to principles of corporate sustainability to create stability in energy to support economic and social development simultaneously with caring for the environment by considering the creation of shared values and developing simultaneously with stakeholders in every region with the determined company vision to be the "Energy Partner of Choice"…"
Food & Staples Retailing	1	**Associative claim:** *image orientation* "*CP ALL Public Company Limited* and subsidiaries realize the importance of business operations that are responsible for the society and the environment…"
Food, Beverage & Tobacco	5	**Substantive claim:** *process orientation* "All cocoa that we use in the production must come from sustainable agricultural sources, most of which are from the Cocoa Life project."
Health Care Equipment & Services	2	**Substantive claim:** *product orientation* "For safety, the auto shut-off function turns off the steam iron when it is not in use for 2-3 minutes, which helps to conserve energy and ensure your peace of mind."

Table 3 (continued)

Industry Group	Number of Companies	Example of Environmental Claim (Translated from Thai to English)
Household & Personal Products	4	**Both substantive and associative claims:** *product orientation, process orientation, and image orientation on the same webpage* *Image orientation*: "Today we launch our promise and new challenging operations to tackle climate change, protect and restore nature, as well as conserve resources for the next generation." *Process orientation*: "cooperation to collect and process our plastic packaging" *Product orientation*: "*Breeze Excel* revolutionizes the detergent industry for the first time in Thailand with the positioning of a better clean energy with natural eco-friendly enzymes for the world!"
Insurance	3	**Associative claim:** *environmental fact* "Top 10 trees that are suitable for cleaning the air in your house"
Materials	5	**Substantive claim:** *process orientation* "Within 2035, all products of Dow that are produced into packaging must be reused or recycled."
Real Estate	2	**Substantive claim:** *product orientation* "The Energy Recovery Ventilator (ERV) system of *Panasonic* is a system that exchanges heat and humidity through the exchange of fresh air from outdoors and the air within the house that might be contaminated with heat, undesirable odors, mold, humidity, carbon monoxide, carbon dioxide, PM 2.5, and pollen. Besides hygienic benefits, this system also helps to conserve energy and reduce costs in installing ventilation systems. This system has been already been installed in the kitchens and bathrooms of the MARQ Exquisite."
Software & Services	2	**Substantive claim:** *process orientation* "5% reduction in the use of plastic in production compared to the previous year"
Technology Hardware & Equipment	5	**Associative claim:** *image orientation* "As the personnel of a global corporation, dedication to the society and the environment is not only for charity, but this is also incorporated into our business operations."

Table 3 (continued)

Industry Group	Number of Companies	Example of Environmental Claim (Translated from Thai to English)
Telecommunication Services	1	**Both substantive and associative claims:** *process orientation and image orientation on the same webpage* *Image orientation*: "With the vision of becoming the most accepted digital technology service producer, *AIS* has created 7 strategies for sustainable business operations as follows:" *Process orientation*: "expanded 2,400 E-Waste bins across the country" and "collected 114,800 pieces of E-Wastes."
Transportation	1	**Substantive claims:** *both product orientation and process orientation on the same webpage* *Process orientation*: "All six airports of *AOT* have been certified as low-carbon airports according to the Airport Carbon Accreditation (ACA) project by the Airports Council International (ACI), which is one of the most widely accepted standards for management of greenhouse gases in the airport industry."
Total	**51**	

To address the second research question concerning the types of message framing used in green marketing communications on Thai corporate websites, the frequencies and percentages of the types of message framing are displayed in Table 4.

Table 4 *Types of Message Framing Used on Thai Corporate Websites*

Types of Message Framing	Frequencies	Percentages
Gain Frame	50	98.0
Loss Frame	0	0.0
Both Gain and Loss Frames	1	2.0
Total	**51**	**100.0**

As shown in Table 4, only one Thai webpage used a combination of gain and loss frames on the same webpage (2.0%), while all of the other 50 webpages only used gain frames (98.0%). The webpage that used both gain and loss frames consisted of two key messages with separate call-to-action icons for the audience to continue reading. The first key message used the loss frame by providing the negative warning that it might be too late to preserve the green spaces that are declining if no one takes action, followed by a call-to-action icon for the audience to click to continue reading. Below that message is the second key message that used the gain frame by providing the

positive information that the company is determined to be the "Energy Partner of Choice" by implementing sustainable practices that provide stable energy for economic and social development simultaneously with taking care of the environment and the quality of life of all stakeholders, followed by another call-to-action icon for the audience to click to continue reading. These separate call-to-action buttons indicate that both messages are intended to be different key messages; hence, the message framing of this webpage was coded as both gain and loss frames.

Discussions

The present exploratory research on the types of environmental claims and message framing that are used in green marketing communications on Thai corporate websites reveals consistent findings with several recent studies cited in the literature review.

Regarding the main types of environmental claims, the findings of the present study are consistent with the results of Kim and Han (2016) in Korea that more than half of environmental claims were substantive claims, followed by associative claims, and the least common type was the combination of both substantive and associative claims. Initially, the original study of Carlson et al. (1996) also found higher usage of substantive claims than associative claims in Australia, Great Britain, and Canada, while that study excluded messages that contained combinations of environmental claims. Similarly, Yu et al. (2013) found that Fortune 500 companies used higher quantities of substantive claims compared to associative claims.

For the sub-types of environmental claims, the present results are consistent with the findings of Segev et al. (2016) that the majority of environmental claims used image orientation, followed by product orientation, process orientation, and environmental fact. Several studies found that environmental fact has been the least used, including the findings of Carlson et al. (1996) in Australia and Canada, Segev et al. (2016) in the United States, Leonidou et al. (2014) for multinational industrial firms, and Seelig et al. (2019) for skin care and cosmetic products. This corresponds to the consumer insights that sustainable consumers tend to be influenced by communications about environmental attributes that are directly related to the products, processes, or image of the companies when making purchase decisions for eco-friendly products. Studies found that consumers who value sustainability were influenced by substantive claims (product-oriented and/or process-oriented claims), for instance, eco-friendly materials (CGS, 2019), product ingredients that are fresh, natural, and/or organic (Nielsen, 2015), biodegradable products (SD Perspectives Lifestyle Sustainability, 2020), energy-saving products (Positioning, 2011), and environmentally-friendly packaging (Nielsen, 2015).

In addition, consumers were also influenced by the brand image and reputation of companies that are environmentally friendly (Nielsen, 2015; SD Perspectives Lifestyle Sustainability, 2020), resembling image orientation in the typology of environmental claims. Consequently, these findings from the present content analysis are in line with the consumer insights that it would be more effective for companies to use green marketing communications that convey environmental benefits that are directly related to the company instead of merely presenting environmental facts that are unrelated to the brand.

Concerning the use of message framing, an interesting finding from the present content analysis is that only one Thai webpage from one company

used a combination of gain and loss frames, while all of the other 50 companies merely used gain frames on their Thai webpages. While the use of gain frames can generally be more effective than loss frames for many situations, including favorable responses toward the message, favorable responses toward the brand, and purchase intentions (Segev et al., 2015), there are specific situations that loss frames tend to be more effective than gain frames. These include communications about situations in the near future (Chang et al., 2015), situations with far spatial distance from the audience (Tong et al., 2020), and situations that involve high risks (Tversky & Kahneman, 1981). Therefore, companies that intend to persuade the audience to take action in these contexts could consider using loss frames in their green marketing communications.

Implications, Limitations, and Suggestions for Further Studies

The present exploratory research provides several directions for future studies on green marketing communications in Thailand as well as practical implications for organizations to develop their green marketing communications strategies.

Firstly, the process of selecting the sample of companies revealed that many brands that operate in Thailand do not have corporate websites in Thai. Instead, they have official Facebook pages in Thai. Therefore, further studies could evaluate green marketing communication on official Facebook pages of organizations operating in Thailand listed in the DJSWI 2020 or other listings. Nevertheless, the main challenge is to specify the criteria for choosing the unit of analysis, especially the time frame of Facebook posts, since some Facebook pages rarely post environmental content.

Secondly, further research could examine Thai consumers' perceptions of the real examples of green marketing communications used in this content analysis by conducting experiments, surveys, in-depth interviews and/or focus groups with various Thai consumer segments. Examples of webpages from international and/or local companies from any of the 18 industries in this content analysis could be used. This research direction would contribute to the body of knowledge on the effects of each main type and sub-type of environmental claims as well as each type of message framing.

Finally, future studies could replicate and extend the content analysis of the present research by comparing the Thai version of green marketing communications from the corporate websites of these companies to the English version of green marketing communications on the Thai website and/or the official website of another country that these companies operate in. Another possible research direction is to replicate this study on a sample of local Thai brands that communicate environmental sustainability but have not yet been recognized on international listings.

Besides the preceding academic implications regarding the use of environmental claims and message framing, the present content analysis also provides practical implications for international companies to develop their green marketing communications in Thailand. Due to the large proportion of Thai consumers who are interested in the environmental benefits of products and services offered by companies (Positioning, 2011; Puangkingkaew & Tantiprabha, 2018; SD Perspectives Lifestyle Sustainability, 2020), companies that only provide image orientation claims on the homepage or the first linked webpage that contains green marketing

communications could consider adding specific information on the tangible environmental attributes of the products and processes on the same page to enhance the first impression of authentic environmental sustainability. As Dach and Allmendinger (2014) and Peloza et al. (2012) found, communications from organizations influence stakeholders' perceptions of corporate sustainability. Therefore, it is essential for brands to use effective communications strategies to gain trust from their stakeholders. Furthermore, in addition to merely using gain frames to communicate environmental sustainability, companies could consider using the loss frame if their green marketing communications contexts are concerned with the near future, high risks, or far spatial distances from the audience.

Another implication is that international companies that implement green marketing communications on the English version of corporate websites but not on the Thai website should consider creating the Thai version of green marketing communications on the Thai website to increase awareness of their environmental sustainability among Thai consumers. Only 51 out of 323 companies listed in the DJSWI 2020 contained green marketing communications written in Thai on their official websites for Thailand, while 42 out of 272 companies that were excluded from the content analysis had official Thai websites that did not contain green marketing communications written in Thai. Concurrently, many of those 42 companies implemented green marketing communications on the English version of their official websites for other countries. Therefore, creating the Thai version of green marketing communications on official Thai corporate websites would be beneficial for reaching Thai stakeholders.

The main limitation of this exploratory study is that the sample size is statistically insufficient for making comparisons between specific industries. This is because, out of 323 companies listed in the DJSWI 2020, only one to seven companies from each industry, which is a total of 51 companies, met the sampling criteria of having green marketing communications written in Thai on the corporate website. In this case, a suggestion for further studies is to add brands from other listings to the sample of green marketing communications for the content analysis, such as Fortune 500 and/or local listings in Thailand, to increase the sample size for each specific industry.

Conclusion

As an exploratory study on green marketing communications in Thailand, the present research conducted content analysis of the types of environmental claims and message framing used on Thai corporate websites of companies listed on the Dow Jones Sustainability World Index (DJSWI) 2020. The present content analysis found that the majority of environmental claims are substantive claims, followed by associative claims, and a combination of substantive and associative claims. Specifically, image-oriented claims are used the most, followed by product orientation, process orientation, and environmental fact. Combinations of these claims include messages that contain both product and process orientation, both process and image orientation, both product and image orientation, and a combination of product, process, and image orientation. Regarding message framing, almost all companies use gain frames. Based on consumer insights from previous studies that indicate consumers' interests in tangible environmental attributes products and services,

companies could consider increasing the use of substantive claims (product orientation and process orientation) regarding environmental sustainability on their corporate websites.

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