

## A Study on Perceptions and Consumption Values of Ethical Consumption by Using Social Media Big Data

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**Introduction:** The 2018 Sustainable Ethical Fashion Global Forum predicted that ethical fashion would outpace fast fashion by expanding its market base through a reasonable value-for-money policy forum (2018 Sustainable ethical fashion global forum, 2018). Socially conscious consumers have been trying to address the problem of unethical production by changing consumer behavior from making a rational choice to pursuing universal value. Some researchers have interpreted this trend as a change in consumption paradigm from self-centric to value-centric consumption and from the pursuit of self-gratification to the pursuit of altruistic values (Nicholls, 2002). Consumption has become an important value indicator of modern culture. Most ethical consumption-related research conducted has primarily analyzed the characteristics of ethical consumers through surveys and interviews with experts. This study aims to identify and analyze consumption values and perceptions on social media as they change, using big data analytics.

**Literature Review:** Matten, Crane, and Chapple (2003) defined ethical consumption as “the conscious and deliberate choice to make certain consumption choices due to personal and moral beliefs.” Sheth et al. (1991) defined consumption value as a “concept that serves as a criterion for decision-making or goal in the process of purchase decision and selecting a particular brand.” Holbrook (1999) defined consumption value as the subjective worth of an object to the consumer, which is interactive and denotes a preference experience of a relativistic nature; when different values are attached to the same product, each consumer can act and evaluate products differently. Big data are high-volume, high-velocity, and high-variety information assets that demand cost-effective, innovative forms of information processing enabling enhanced insight, decision making, and process automation (Gartner, 2012). As a promising alternative of the approach to formulating hypotheses by collecting data and verifying them with quantitative data, such as statistical surveys, social media big data analysis is considered viable. It computes data by performing unlimited analysis of substantial voluntarily written feedback in a voluntary communication space, thus facilitating insight extraction and user reaction analysis.

**Method:** This research uses Naver and Daum—Korean representative search sites—to collect and analyze the data about the keywords “Ethical Consumption” from January 1, 2014, to December 31, 2018, using the social matrix program Textom (by IMC Inc.). We then analyze and visualize the network by using UCINET 6 to determine the frequency of use and the network between words. This study examines the lower dimensions of ethical consumption and the perception of ethical consumption in social media, and the consumption value related to each lower dimension, comparing and analyzing changes over time. A total of 25,986 data collected through Textom in 2014, 27,401 in 2015, 31,571 in 2016, 33,131 in 2017, and data collected in 2018 (42,287 online posts) were collected. A total of 160,376 online posts were collected over five years. To analyze perceptions toward ethical consumption, we used CONCOR. CONCOR analysis is a 1-mode network analysis based on a Pearson correlation of a simultaneous occurrence matrix of words. It is a method classifying similar groups at appropriate levels by repeatedly performing correlation analysis (Kim & Jeon, 2014). To examine the relationship between the lower dimension of ethical consumption and the consumption value, the relationship between two entities of different qualities is analyzed. When A entity contains  $n$  elements and B entity contains  $m$  elements, we use a 2-mode network analysis that consists of  $n \times m$  matrices, analyzing the association between them.

**Results:** After analyzing the data collected through Textom, we analyzed the frequency through text mining and extracted the top 100 words per year. To analyze the simultaneous occurrence relationship between nominal keywords, we used 70 noun phrase keywords among the top 100 in frequency analysis. CONCOR analysis was performed using Ucinet6 to identify the relationships among the clusters within the network based on structural isotopic results. Consequently, awareness was categorized into four groups per year: In 2014, the group responsible for society and the environment, the problem deriving from economic growth group, the fair trade-related consumption group, the positive emotional value group. In 2015, commitment to the social environment group, life and people group, interest and practice in the world group, and problems caused by capitalism group. In 2016, the human emotional value group, responsibility for economic matters group, ethical product consumption group, and the problems of capitalism group. In 2017, the consumption trends group, social responsibility group, the choice for the future group, and animal care trends group. In 2018, animal protection trends, the human happiness group, social enterprise consumption group, and mass consumption group. In 2014 and 2015, “fair trade” and “coffee” were categorized into the same cluster. Additionally, “fair trade,” “good consumption,” and “eco-friendly product consumption” were classified into similar clusters or identical clusters. However, over time, similar words differed between each sub-dimension of ethical consumption. From 2017 onwards, animal protection trend clusters emerged as a distinctive group, which can be thought to be a result of the popularity of vegan fashion, such as eco fur and vegan fur (Lee & Choi, 2016). To examine the relationship between the sub-dimension of ethical consumption and the consumption value, the 2-mode network analysis results show that all of the “green product consumption,” “good consumption,” and “fair trade product consumption” was located adjacent to the center of the network, and it was confirmed

that they exist at a similar position on the network. In 2014 and 2015, a sub-dimension of “cooperatives” was derived in addition to the above three sub-dimensions. It was found that the sub-dimension was located outside the other sub-dimensions in the network. In 2015, the distance of the node was near, but it has not been derived from the lower dimension since 2016. From 2017, it can be seen that “animal welfare” was derived from the frequency analysis of keyword frequency and the remaining lower dimension is located at the center of the network. In 2017, the lowest dimension of the node closest to animal welfare was “eco-friendly product consumption,” and shared value vocabulary was defined as “justice,” “satisfaction,” “love,” “nature,” “environment,” safety, and health. In 2018, nodes that are closest to “animal welfare” were “eco-friendly product consumption” and the shared value vocabularies were “satisfaction,” “happiness,” “environment,” “health,” “brand,” and “economy”. Until 2014 and 2015, if fair trade was mentioned with “cost” and “economy,” “fair trade” was mentioned with “culture” from 2016. Until 2015, co-operatives and eco-friendly product consumption tended to perceive ethical consumption concerning food consumption. From 2017, the sub-dimension of animal welfare was derived, and the consumption value vocabulary associated with each sub-dimension was identified. We were able to see what sub-dimensions were derived yearly and to visualize the value by which each sub-dimension connects, so that we could understand the value associated with the features of the sub-dimension.

**Conclusions:** This study empirically analyzed ethical consumption by using text mining frequency analysis and network analysis using big data analysis. Consequently, people’s perceptions of ethical consumption in social media are perceived as consumption behavior that considers the environment and consumption behavior according to individual’s consumption value. In recent years, people’s perceptions gradually recognize ethical consumption as a fashion trend and increasingly associates with animal welfare. I believe that it will help to establish marketing strategy directions by considering vocabulary which has a high influence on the relationship between the lower dimension of ethical consumption and value. The results of this study will contribute to the understanding and expansion of ethical consumption.

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