

# Consumer Behavior in Product Disposal: Mapping the Field

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## ABSTRACT

Consumer behavior in product disposal is attracting growing academic interest. The present article, using bibliometric techniques, presents an overview of studies generated in this field. Using the Scopus database, 215 studies were identified. The descriptive analysis of this body of literature confirms accelerated growth in the number of published documents on this subject. The analysis of co-occurrence of keywords allows for establishing four thematic areas of research: 1) economic, social, and environmental consequences of product disposal; 2) disposal of food; 3) disposal of clothing; and 4) disposal of electronic products. The study ends by discussing these and other findings.

**Keywords:** Consumer behavior, Product disposal, Product waste, Marketing

## INTRODUCTION

Product disposal is a process in which a consumer stops using a product that is still functional and discards it, either by storing it, donating it, giving it away, throwing it away, or selling it (Jacoby et al., 1977; Hanson, 1980). Due to its consequences, product disposal behavior is a study area of great importance for society and the environment (Cruz-Cárdenas and Arévalo-Chávez, 2018). For example, while donating, giving away, or selling the product keeps it circulating among new owners, throwing it away means that it winds up in garbage dumps and landfills (Cruz-Cárdenas et al., 2017). Furthermore, product disposal is of great interest to companies because it is associated positively with new purchases (Ha-Brookshire and Hodges, 2009; Cruz-Cárdenas et al., 2016).

Given the great importance of product disposal behavior, research on it has attracted growing interest from academics across various disciplines (Cruz-Cárdenas and Arévalo-Chávez, 2017; Boulet et al., 2021; Islam et al., 2021). However, in high-growth fields of knowledge, efforts that seek to provide a global perspective on the knowledge being generated are advisable so that new research efforts have a better orientation (Singh et al., 2020). Thus, the present article seeks to make such a contribution by generating a bibliometric study of the existing literature on consumer behavior in product disposal.

## CONSUMER BEHAVIOR IN PRODUCT DISPOSAL

Consumer disposal behavior has been an academic area of study for more than four decades. Jacoby et al.'s (1977) founding study introduces this topic, its definition, and disposal methods. Once a consumer consciously or unconsciously has stopped using a still-usable product, that product is disposed of by some method. Each method generates a set of different values for the consumer (Cruz-Cárdenas and Arévalo-Chávez, 2018): Donating generates moral value and frees up space at home; giving away generates relational value and space at home; selling generates monetary value and also frees up space; storing generates psychological value by preserving possessions; and throwing away products creates space.

The decision to dispose of products very often is associated with new purchases (Ha-Brookshire and Hodges, 2009; Cruz-Cárdenas et al., 2016). Therefore, as companies' marketing strategies and technological developments shorten product lifespans – not due to any lack of functional capacity, but rather to fashion or obsolescence – consumer disposal activity will tend to become more frequent.

It is also necessary to consider the COVID-19 pandemic's impact on consumer behavior, as such a disruptive phenomenon has been generating important changes in consumer behavior, some of which will be temporary and others permanent (Cruz-Cárdenas et al., 2021). The pandemic emerged on the world stage at the end of 2019, and as of the writing of this article, it remains active.

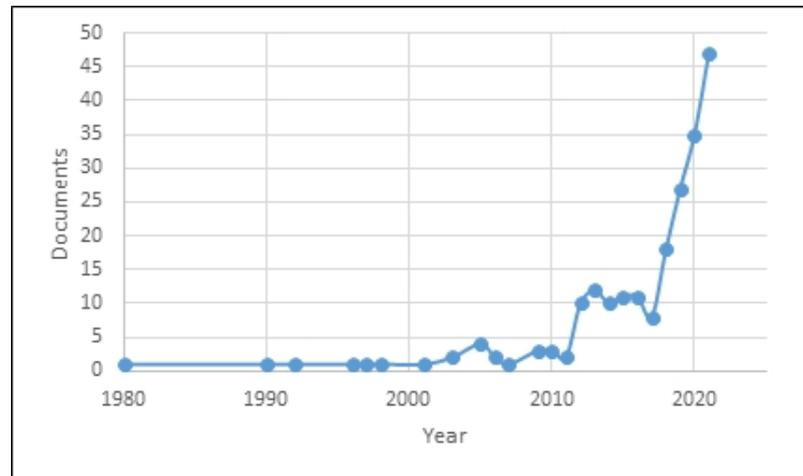
## METHOD

The present study's method followed the recommended steps for bibliometric studies or systematic literature reviews (e.g., Osobajo and Moore, 2017; Cruz-Cárdenas et al., 2021). In this way, the present study comprised four stages: 1) formulation of study objectives; 2) establishment of criteria for inclusion of documents; 3) selection of search strategies; and 4) description of the body of documents and of selected literature.

The Introduction section indicates the need for a study that helps provide a general idea and a description of the accumulated body of literature in the area of consumer behavior and product disposal. In this way, the present study, which seeks to fill this need, is guided by the following objectives:

- O1: To describe the most relevant characteristics of the body of literature on consumer behavior in product disposal.
- O2: To describe the interrelationships between these documents.

With the study objectives established, the next step was to define the criteria for inclusion of documents. A central criterion aligned with the study objectives was to find documents that deal with product disposal, but from a consumer behavior perspective. Another important criterion was to include documents of an acceptable quality level. It also was viewed as important to retrieve the documents generated on any date (without time limits). Furthermore, it was viewed as important to delimit the documents' language to English.



**Figure 1:** Evolution in the number of documents (Source: Scopus).

Once the inclusion criteria were established, they were operationalized in search strategies. The Scopus database was selected, as it is a database of journals and content with wide coverage using quality criteria (Singh et al., 2020). Next, the search terms that allow for retrieval of documents were established: “disposal AND {consumer behav\*}.” The term “disposal” is the commonly accepted term to refer to the behavior under study, but the asterisk next to “behav” allowed for inclusion of different words that refer to behavior, such as “behavior” or the British “behaviour” (Cruz-Cárdenas et al., 2021). Furthermore, it was specified that the search for terms should focus on titles, abstracts, and keywords of documents. The search was conducted on January 4, 2022. As a result, 215 documents were obtained.

## RESULTS

The first analysis aimed to describe the evolution in the number of documents published over time. As can be seen in Figure 1, until 2017, there was little scientific output on the topic of consumer behavior in product disposal. However, as of 2017, the trend changed significantly toward accelerated growth. During 2021, the last year of the analysis, 47 documents had been published. This growing trend in the topic of consumer behavior in product disposal confirms assertions by several authors (e.g., Cruz-Cárdenas and Arévalo-Chávez, 2017; Boulet et al., 2021; Islam et al., 2021) regarding growing academic interest on this topic.

Another analysis conducted on the body of literature was on the type of documents published. In this sense, articles were the dominant type, at 169 (78.6%), followed by conference papers, at 18 (8.4%). Considering that consumer behavior is a multidisciplinary field, it was also very interesting to analyze which areas of knowledge generated the most documents. It should be noted that the same document can be related to several areas. Thus, two areas stood out over the others: “environmental science,” with 105 (48.8%) documents, and “business, management, and accounting,” with 67

(31.2%). These two areas of interest reflect product disposal's impact on consumers, companies, and the environment (Cruz-Cárdenas and Arévalo Chávez, 2018).

As for the most prolific authors, J. Cruz-Cárdenas stands out, with five documents, followed by R. McQueen, with three. Regarding the institutional affiliations of the authors of consumer behavior and product disposal, having at least three associated documents was used as a cut-off point. It was necessary to indicate that a document with different authors can be related to different institutions. Although no dominant institutions were found, Ecuador's Universidad Indoamérica and Wageningen University & Research of the Netherlands led the list, with five associated documents each. These rather low numbers suggest that the figures are the result of authors' efforts, rather than large research programs.

Regarding countries related to authors' institutions, this was used as a cut-off point when the country was related to 10 or more documents. The U.S. led the list, with 39 documents (18.1%), in which one or more authors were associated with U.S. institutions. Next were the United Kingdom, China, and Germany.

For an analysis of co-occurrence of terms, VOSviewer 1.6.15 software (Van Eck and Waltman, 2010) was used. Co-occurrence was estimated based on document keywords. The minimum frequency of occurrence for a word to be included in the analysis was five, the number that the software established by default. Under this criterion, 94 words passed this cutoff point. Next, a clean-up and debugging were conducted, which involved discarding irrelevant words, as well as grouping words or terms with similar meanings. The co-occurrence analysis based on keywords allowed for the identification of four clusters, which can be associated with the thematic areas of interest in the research. Figure 2 shows these clusters.

Cluster 1 (green): This cluster comprises words such as "environmental management," "environmental protection," "pollution," "economics," "packaging waste," "cost," and "financial management." From these words, it can be deduced that this cluster is related to the economic, social, and environmental impact from product disposal.

Cluster 2 (blue): This cluster comprises words such as "attitude to health," "food," "food waste," "household," and "cooking," suggesting that this group refers to food disposal.

Cluster 3 (red): This cluster comprises words such as "recycling," "life cycle," "clothing," "textiles," "clothing disposal," "textiles waste," and "circular economy." From these words, it can be deduced that this cluster focuses on clothing disposal.

Cluster 4 (yellow): This cluster comprises words such as "waste management," "domestic waste," "electronic waste," "electronic equipment," "solid waste," and "decision making." From this integration, it can be deduced that this thematic area is related above all to the disposal of electronic products.

Finally, an analysis of co-authorship networks was conducted with a cut-off point of at least three documents. The obtained results determined that no important networks existed among the main authors of consumer behavior in product disposal.



that could be as high as 27% (Conrad, 2020). Food disposal is a complex behavior in which variables internal to the consumer, as well as family and environmental variables, exert influence (Boulet et al., 2021).

Clothing disposal is another area of research interest. Business strategies such as “fast fashion” are further accelerating the pace of clothing replacement. For this reason, consumers are moving away from disposal by storage and looking for alternative methods to clear space in their closets for new clothes, such as donating (Ha-Brookshire and Hodges, 2009), gifting (Cruz-Cárdenas et al., 2017), or throwing away.

A third product-disposal category that comprises an important area of study is the disposal of electronic equipment and related accessories. These types of products are one of the fastest-growing waste categories these days, and their environmental impact is enormous (Arain et al., 2020). When consumers dispose of these products, they are looking for, above all, ease and convenience (Arain et al., 2020; Islam et al., 2021).

The preceding reflection on the transcendence of clothing, food, and electronics disposal and its effect on consumers, companies, and society at large allows us to recommend the need for study continuity. Furthermore, studies that identify temporary and permanent changes in disposal behavior with these products due to the COVID-19 pandemic are very necessary.

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