



Recycling as an Object of Study for Behavioural Sciences

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Introduction

The principle that has infused the recycling of waste is sustainability and, of course, the effectiveness and efficiency of recycling. It is this conviction and this value that has consolidated the field of social marketing as an ethical and cost effective approach to the study and promotion of recycling. In this context, the aim of this article is simply to present the precursor disciplines pertaining to the analysis of recycling from the perspective of the social sciences, of which social marketing has become one of the most advanced approaches. Similarly, it is not only to briefly review the present state of affairs, but also to propose some future lines of research, so that the objective study of recycling can continue progressing.

Multidisciplinary Approaches to the Study of Ecological Behaviour and Recycling

The study of green behaviour and consumer recycling has been approached from different perspectives [1]. On one side, it is approximated by cognitive psychology, based on the information available to, knowledge of, and assessments made by the consumer. From this perspective, behaviour is analysed via the study of cognitive and evaluative components, leaving aside other variables such as values, motivations and personality. Therefore, the scope of the research constitutes the analysis of how a person perceives, represents, remembers and uses ecological information [2]. Thus, it is treated as a micro analysis approach that examines the adoption of green behaviours in response to certain processes of knowledge and evaluation. The methodology used alternates qualitative and quantitative techniques. Paradigmatic research in the field of recycling based on this approach includes Ref. [3-5].

Additionally, there is the approach of cognitive anthropology that focuses on the study of the cultural characteristics that drive the consumer. It is a macro approach that caters to larger contexts, as it analyses the principles, convictions and social trends that lead consumers to adopt green behaviour. The focus of cognitive anthropology, unlike cognitive psychology, is on the information processes that compel people to work towards specific purposes that always have a direct effect in solving the problems of everyday life [1,2]. The methodology used is usually qualitative. Outstanding works in the field of recycling based on this approach include Ref. [6-8].

In addition, there is a perspective from social psychology that considers values as determinants of personality, which affect cognitions and evaluations that lead consumers to adopt green behaviours [1]. This approach is implicit in works from the field of environmental research and recycling in Ref. [9-12].

Finally, there are certain areas of research that constitute objects of study neglected by previous approaches and refer to the analysis of the reasons and goals that induce people to adopt green behaviours. While the main contribution of this approach is to have shed light on the causes of and reasons for these behaviours, it has not been able to explain the discrepancy between the processes of volition and conduct. An example of this approach is the work of Ref. [13]. It also highlights the sociological research, which examines green behaviour as an effect of social structures and public institutions. Recurrent topics from this

perspective have included the analysis of social roles and the influence of family and other groups of reference. Examples of these works are those of Ref. [14-18]. Similarly, we see socio-demographic research, which claims to represent the profiles of those who perform pro-environmental routines, with representative works from this approach being Ref. [19-21] as well as research on lifestyles, which represents the interdisciplinary approach since the scope of its study covers the characteristics of personality, values, motivations, attitudes and behaviours - representative works being those of Ref. [22] and Ref. [23].

The Social Marketing of Recycling

Participating in these disciplines and sharing the same research objective, the approach of marketing and the analysis of consumer behaviour focuses on recycling, according to Ref. [24] from two perspectives: the behaviour of consumers when performing recycling duties - such as separating and depositing household waste in collaboration with the separate collection programmes that exist in their municipalities - and behaviour related to purchasing goods which contain recycled material. While the second approach is that of socially responsible marketing, the first perspective belongs to social marketing. The fundamental difference between the two perspectives is the fact that in the first approximation the citizen becomes a producer and supplier of waste, while the second approach the citizen acts as a buyer and consumer of products.

The approach of social marketing aims to resolve the fundamental problem that arises when trying to encourage the acceptance of the necessary guidelines for effective cooperation with waste recovery programmes on the part the consumer, whose behaviour is understood in marketing terms as product [25,26]. Therefore, emphasis should be placed on the systems themselves in order to ensure the desired behaviour, which is to say, the systems that enable the adoption of recycling behaviour by developing intensively and continuously in relation to all varieties of recoverable material, and being maintained over a long-term timeframe [27,28].

By contrast, the approach of socially responsible marketing poses the fundamental issue of meeting the needs of the consumer through the provision of sustainable, high-quality and adequately priced products.

From the perspective of social marketing in the field of recycling, the product price is not conceived of as monetary cost, but rather as the effort and sacrifice invested by consumers in relation to the performance of the recycling behaviour [28]. The value of this investment is based on

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the consumer's perception of the amount of sacrifice involved [25] and is interpreted in terms of how convenient the system of distribution is to use [29]. Social marketing experts know that many adoptions fail because the costs are perceived as too high and the benefits are barely appreciated. Therefore, a fundamental task of these specialists is to adjust both perceptions, so that the price of the effort of recycling does not become an inhibitor to the development of recycling in society [28].

The possibility of developing consumer cooperation lies in the conditions established by the distribution variable [30]. The distribution channels of the objects to be recycled by the citizen are called 'reverse channels' or 'return channels'. Reverse channels are understood in terms of the structure of the system by which materials are circulated and the process by which recyclable materials are supplied by the consumer to the producer. The essence of reverse distribution is therefore the reverse in terms of the direction of circulation or the process of the return channel whereby the consumer assumes the role of the producer, and the producer that of the receiver [31,32]. In this type of channel, the functions of distribution are consistent - classify, collect, sort, and distribute - and should be reconsidered in the sense that the primary function is to classify the product, being performed by the consumer [33].

The type of reverse or return channel in which the consumer participates is called a direct channel and is characterized by delivery of recyclable material on the part of the consumer, and without intermediaries, to the manufacturer or, alternatively, by the presence of an intermediary which assumes the transport work [30,34].

According to Ref. [31], the study of the adoption of the recycling behaviour through reverse or return channels should pay attention to the effects of communication, as consumers may be persuaded to take up recycling through promotional messages. It is precisely this approach to the study of the adoption behaviour which, as evidenced by Ref. [27], and from the perspective of social marketing, transforms the campaign for social change at the point of production and targets adoptees at the point of consumption.

Conclusions

The fields of application for green marketing and recycling, although characterized by their thematic novelty, have, in fact, advanced recently in their doctrinal body. Likewise, models of green behaviour have been developed in the dimension of product recycling, especially since it is the consumer who supplies the raw material for recycling and due to the fact that the majority of the population participates. Thus, it has been possible for models of behaviour for recycling to be estimated which have a good fit to the data. On the other hand, the impact of promotional techniques for recycling on attitudes and beliefs has been investigated and has delved into the influential role of the values and motivations of consumers. Finally, there has been an effort to research the processes of change that affect beliefs, attitudes and consumer behaviour regarding the application of promotional techniques for recycling, and which consider the characteristics of consumers in order to achieve a better balance between the techniques and the target group. Ultimately, recycling behaviour as studied from the perspective of social marketing is interesting not only for its insight into adoption behaviour, but also from the perspective of improving promotional techniques for recycling.

Much remains to be investigated, but here we may illuminate the possibilities for future lines of research, such as exploring the reasons for the reluctance of certain social groups to participate in recycling. The emotional or irrational aspects may also help to explain the

behaviour of recycling and understand models of recycling behaviour related to emerging and less studied materials such as oil, clothes and shoes, pharmaceutical products, plastic cup for bottles, etc.

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