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How does individual low-carbon consumption behavior occur? – An analysis based on attitude process



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HIGHLIGHTS

- We distinguish five dimensions of Chinese consumption values.
- We build a model of how the individual low-carbon consumption behavior occurring.
- We confirm the structure of the attitude process and actual behavior.
- We analyze the correlation between attitude process and actual behavior.
- We analyze the moderating effect of social consumption culture.

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ABSTRACT

Low-carbon consumption is an inevitable choice in the development of a low-carbon economy. Based on analysis of the attitude-formation process, a study of the individual key consumption conditions from the cognitive process, to the affective process and to final behavioral choice tendency was carried out. A new theoretical model of the realization process of low-carbon consumption was constructed and an empirical study followed. The results show that the functional consumption value and the economical consumption value have significant influences on low-carbon consumption cognition. The social consumption value significantly influences the preference for low-carbon consumption preferences to others and low-carbon consumption behavioral tendency. Environmental cognition and cognition of low-carbon consumption significance impact low-carbon consumption preference to selves significantly, and low-carbon consumption preference to others has a significant influence on low-carbon consumption behavioral tendency. Environmental cognition and low-carbon consumption preference to selves negatively impact individual consciousness consumption behavior, while environmental cognition, cognition of low-carbon consumption, low-carbon consumption preference to others and low-carbon consumption behavioral tendency positively impact social consciousness consumption behavior. The negative moderated effects of social consumption culture on low-carbon consumption preference to selves and low-carbon consumption behavioral tendency, low-carbon consumption behavioral tendency and individual consciousness consumption behavior are significant. After discussion of the research results, strategies to promote individual low-carbon consumption behavior are proposed.

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1. Introduction

Severe environmental problems such as global warming, air pollution, resource depletion and acid rain are growing threats to sustainable economic development of many countries. Since it was first proposed in England in 2003 [1], attainment of a low-carbon economy has become a high priority in global economic development, In China, the government strongly supports the

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development of a low-carbon economy. In 2009, the Chinese prime minister of the State Council, Wen Jiabao, pointed out, China's need to set an example by developing a new approach to economic growth that includes low carbon emissions. In 2010, at the third conference of the 11th National People's Congress of China, Wen Jiabao emphasized again that China would build an industrial system and consumption pattern characterized by low carbon emissions, which indicates the government's determination to develop a low-carbon economy. The Chinese government has made a series of efforts to develop a low-carbon economy and to promote energy conservation and emission reduction through the development of low-carbon cities and building low-carbon-emission industries. A low-carbon economy cannot be realized without

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low carbon consumption by individuals. For individuals in a society, low carbon consumption is an important part of promoting a low-carbon economy.

Most of the low-carbon consumption behavioral research has been for the purpose of guiding policy to encourage low carbon consumption [2–7]. There has been little research on individual low-carbon consumption behavior. The consumer group is the main body determining benefits to an enterprise, so the frequency of low-carbon consumption behavior of individual consumers will determine directly the willingness of an enterprise to develop, produce and sell low-carbon products. If consumers reject low-carbon consumption because they question its benefits, the enterprise will not profit, and the goal of developing a low-carbon economy will not be reached. Therefore, it is important to understand consumers' attitudes and to recognize the factors affecting their decisions.

Based on an analysis of the attitude-formation process, in Section 2, a new theoretical realization-process model of low carbon consumption from cognitive process to affective process to final behavioral choice tendency is constructed, and in Section 3, the empirical research followed using the questionnaire method is presented. In Section 4, the results are given followed by discussion. The goal was to understand consumers' cognition and attitude, to recognize the factors affecting attitude and their influence on the actual consumption behavior of an individual, and to identify the reasons for contradictions between individual consumption attitude and actual consumption behavior.

2. Theoretical basis and research design

Values are internal determinants of individual choice between "what to do" or "what not to do". Consumption values play an important role in guiding an individual's consumption attitude and behavior. The external environment, including social factors, is also an important determinant.

2.1. The core concepts

2.1.1. Individual values

Values are important factors impacting the cognitive process. Values are basic perspectives on problems, and they are also the position and viewpoint when one deals with value-relationship issues [8]. Values are the foundation of attitude, they are an important part of the cognitive process, and they are the cognitive basis and judgment standard of attitude subject to object. Park thinks that consumers' basic needs include experiential needs, symbolic needs and function needs [9]. Sheth, Newman and Gross think that consumers' choices are caused by a variety of consumption values, so they differentiate the nature of products using functional value, social value, emotional value, curiosity value and conditional value [10]. So combined with the Chinese social and cultural background, the following five dimensions are those into which our research is divided: showing off consumption value (SCV), emotional consumption value (EMCV), functional consumption value (FCV), economical consumption value (ECV) and social consumption value (SOCV). The showing off consumption value takes consumption as the approach to define personal roles, displaying high status, wealth, self-identity and other internal demand. The emotional consumption value pursues positive and cheerful affection, or romance and passion in the process of consumption or use of products. The economical consumption value aims to realize the personal consumption purpose through the product or consumption experience, emphasizes the core value of goods, and involves the hopes of obtaining the products with a minimum cost. The functional consumption value pays attention to the function of a product or its available utility in relation to its physical properties so as to gain satisfaction in its use. The social consumption value regards harmonious relationships (between humans and nature, humans and society, society and nature) and environmental protection as the most valuable in life. People who have the social consumption value encourage saving and environmental protection activities in their daily life, pay attention to the influence of their behavior on society, and take the harmonious development of society and nature as their ultimate goal.

2.1.2. Attitude

The American sociologists Thomas and Znaniecki used the concept of attitude for the first time in the book "The Polish Peasant in Europe and America" and defined social psychology as "the science to study social attitude" [11]. Different scholars have described attitude from different points of view [12-20]. It is clear that, in the academic circle, there is no consistent opinion about how to define attitude, and different scholars have different views. Generally, attitude can be divided into three categories. The first is to reflect the composition and characteristics of attitude; the second is to emphasize the cognition tendency of attitude; and the third is to emphasize the function of experience in determining attitude. However, all scholars stress that attitude is an expression after estimation. Therefore, evaluation is important in the concept of attitude. When something is not in conformity with individual needs, disgust will naturally result. Most scholars emphasize that "attitude" is for a "special psychological object". For example, the attitude towards buying a car is to obtain comfortable, convenient or showing off experience, while the attitude towards buying a pet is to obtain emotional sustenance. Attitude is a psychological structure closely related to individuals, so it reflects, and keeps a close relationship with, personality differences.

Scholars have put forward three theories about the ingredients of attitude. The first is single-factor theory, which regards affective performance as the main component of attitude [21,22]; that is to say, the apparent attitude is affect. The second is two-factor theory, which holds that attitude is a unified expression of affect and cognition [23]. Taking cognition as part of attitude is the base of affective expression, and the consistency of cognition and affect will cause attitude. The third theory is called "ABC of attitude", or three-factor theory, which is admitted by most scholars. It considers that cognition, affection and behavior tendency constitute attitude [24,25]. Attitude, affect, cognition, behavior tendency and individual action connect and interact with each other in an organic system [26,27]. An organic system is one in which changes in one part will cause changes in other parts.

The three-factor theory is used in the present paper, taking the attitude process, from cognition to affect to behavioral tendency, as a whole.

(1) Cognition process of attitude

Research on the cognitive process stems from psychology, and in 1950s, cognitive psychology sprang up and became one of the important branches of psychology. Cognitive psychology holds that the cognitive process is a process of getting, understanding and making use of knowledge, or, to put it simply, a process of dealing with information. Damon thinks that cognition refers to all the ways of exchanging, receiving and processing information from others, such as notice and memory, including some strict social process as well, such as communication and viewpoint choice [28]. Hamilton thinks that cognition includes the factors that have effects on obtainment, representation and extraction of information and the relationship between the processes and people's judgment [29]. Crusel and Lytton think that cognition is research on the psychological events that have happened in others and oneself and the consideration of social relationships [30]. The present paper

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