The Research of Low-carbon External Motivation in the View of Market, Government and Social Norms

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Abstract. Based on the theory of regulation and the theory of market economy and enterprise ethics, market, government regulation and social norms are the factors that affect the low carbon of the hotel. Through the research method of questionnaire, the quantitative study of 242 hotels, the model construction and the effect analysis are carried out. The conclusion proves that the coordinated and complementary relationship between the market and the government. Outside the economy, the social norm was considered as the representative of the ethical environment in the hotel's low-carbon factors. It is proved that ethics is a factor that affects the low-carbon of the hotel after the perspective of economics. According to the conclusion, the paper puts forward three suggestions, which is to promote social norms in the hotel's low-carbon influence, and increase the government's regulation and enforcement, and promote the market environment of energy saving and emission reduction.

1. Introduction

In recent years, the low-carbon research in the field of industrial production has almost penetrated every link [1], but the related research of the tertiary industry is still scarce, especially in the traditional concept of smokeless industry-tourism. Some studies show that the carbon emissions of tourism have accounted for three percent of human carbon emissions and will continue to increase at a rate of 2.5 per cent per year [2] relevant research should be paid attention to. The hotel is the second largest carbon source of tourism, which accounts for 19% of the carbon emissions of tourism, accounting for 3.5% of the global construction of carbon [3] the data show that the energy consumption energy of Hotel unit ranked 37 in all industries 135 departments. The electricity consumption of the unit construction area is 10-20 times of the residential buildings' level in the city. The per capita water consumption is 5-8 times the average family [4]. The per capita consumption of energy is 10 times the urban population [5] the energy cost of our hotel accounts for 20% of the total turnover, which is higher than the average of 5.5%-6.6% of international [6]. Although the hotel's low-carbon problem is imminent, the relevant research is still scarce. Many scholars also suggest that the impact of low-carbon enterprises should be paid attention to, which is important for people to understand the low-carbon behavior. Research shows that the market, government regulations, social norms and other factors are the important factors of low-carbon, but these factors need further empirical analysis of the role and influence of the hotel, which can provide reference for the low-carbon tourism.

2. Theoretical research

2.1. Externality theory
Over the past 100 years, the theory of externality has been successfully applied in the field of environmental and ecological research, the theory of public interest in traditional regulation theory is assumed by the market failure, that the government regulation can solve the adverse effects of market failure. The theory of interest group regulation is based on the government's failure as the basic hypothesis and opposes the government's intervention in the market. The theory of comparative institutional analysis of new institutional economics holds that the government and the market regulate each other and play a role. Government control and market regulation, with the progress and development of the social productive forces, have experienced the process of reconciliation-contradiction, the role of both in economic development embodies complementary and irreplaceable. In the face of the service characteristics of the hotel enterprises, the relationship between the unity of contradiction and the function of the complementary function is how to embody and function in the tourism enterprise. It's worth studying. Beyond the influence of government control and the market competition environment, there are other factors beyond the view of economics that affect the low carbon behavior of the tourist hotel. These questions are worth thinking about. And it is possible to enrich and improve the external influence factors of the low-carbon behavior of tourism enterprises. At the same time, the existing research results of external theory will be of great significance to the variables of the research model. Therefore, the externality theory is an important theoretical support.

2.2. Market economy and enterprise ethics theory
There is no exception to any profession that is rooted in the social moral tradition. Morality is about human behavior and value. The field research that corresponds to it is ethics. Just as the externality theory is a cure in all fields of economics. Ethical theory is also ubiquitous in economics. And the conflict between economics and ethics makes the ethical problem of the enterprise full of contradictions and disputes. Different market mechanisms are based on their own ethics. These thoughts are mainly embodied in the basic ethics of the market mechanism-Economic liberalism. And the theory of rationalism relies solely on the market mechanism. The difference between the two is whether it can simply rely on the market for economic development. This contradiction is crucial to the enterprises in the market. The control of the low-carbon problem is also of great significance. In particular, the current research is focused on the perspective of economics. Paying attention to government regulation or market competition environment, it ignores the great influence of ethics on economy and society.

3. Reviews and research assumptions

3.1. Market
The market referred to in the Institute includes the external environmental factors of the enterprise, such as suppliers, customers, the public, competitors and other non-core stakeholders. It has been confirmed in some fields. It corresponds to the macro market environment, which is directly related to enterprises except the population, economy, politics, nature and culture [7]. The research thinks that the pressure of the market environment may be the motive force of the environmental reaction of enterprises. Market demand reflects the extent to which enterprises accept pressure to conduct environmental protection. It is an important influencing factor of environmental behavior of enterprises. Miller and others (2010) believe that the market is usually run to a certain stage, the market itself cannot solve the problem, the need for government control and other corresponding assistance and support. Therefore, the market can be assumed to have a path impact on government regulation. And put forward the following assumptions:
     H1: Market has a path effect on low carbon in hotels.
     H2: Market has a path effect on government regulation.

3.2. Government regulation

The government regulation factors referred to in the Institute include the pressure placed on enterprises by the government, industry associations and functional institutions with the ability to control them. Under the guidance of institutional economics and evolutionary economics theory, many empirical studies show that the low carbon behavior of enterprises is influenced by the government level. Governments and institutions play an increasingly important role in low carbon development. Mair (2010) considered that the rules and regulations are barriers to environmental behavior of enterprises, and the policy leadership is the external influence factor of environmental behavior of enterprises [8]. At the same time, government regulation can also guarantee the proliferation of low-carbon technologies. However, at present, there is still insufficient research on the relationship between government policy formulation and enterprise undertaking [9].The following assumptions are therefore proposed

H3: government regulation has a path effect on low carbon behavior in hotels.

3.3. Social norms

The role of social norms in the field of environmental protection has been paid attention, and institutional theory holds that social norms have an impact on organizational behavior and are an important factor in human acceptance or rejection of certain behaviors. The public, especially the media, is conducive to the formation of a low-carbon atmosphere in society, thus forming an open force to promote low carbon in enterprises. In a sense, social norms are the precursor and foundation of legislation, and policies and regulations are the embodiment of public social norms. Public awareness of low carbon environmental protection and social norms and guidance of public opinion have a strong influence on the formulation of national low carbon policy. Holden (2003) believed that once social ethics becomes a social norm, it will have an impact on the behavior of enterprises [10]. The following assumptions are therefore proposed

H4: Social norms have a path effect on government regulation.

H5: social norms have a path effect on low carbon behavior in hotels.

4. Data sources and sample characteristics

A questionnaire was designed to cover eight questions on basic information of enterprises. The survey covered six cities, including Beijing, Shanghai, Hangzhou, Tianjin, Shenyang and Dalian. Represent the different development scale tourist cities respectively. The questionnaire is carried out in many ways through contact with friends, acquaintances introduction, searching for yellow pages of enterprises, telephone interviews and e-mail delivery. The questionnaire is mainly distributed to middle and senior managers in the market department and engineering department. A total of 400 questionnaires were distributed, 267 were collected and the recovery rate was 66.8%, among them, 25 questionnaires were missing and invalid, 242 were valid, and the effective recovery rate was 60.5%.

This study uses Cronbach's Alpha which is a reliability coefficient method to measure reliability. The results of the reliability analysis of spss17.0 can be seen in this paper. The cronbach 'alpha coefficient of each variable is generally above 0.8, and it can be considered that the set item has good internal consistency. The surface and content validity of the questionnaire was verified and corrected in the design of the sheet. The structure validity is verified by factor analysis method, and most values indicate that it is suitable for factor analysis. In addition, the statistical value of the batlet sphere test is remarkable, and it can be analyzed by factor. The result of factor analysis is presented in detail in table. The results show that the questionnaire has good construction efficiency.

Table 1. Summary of analysis results

Factor	Number of questions	Cronbach's Alpha	KMO	Bartlett's Test of Sphericity sig.	Combination reliability	Average variation extraction
Social norms	3	0.888	0.684	0.000	0.755	0.514
Market	4	0.830	0.757	0.000	0.781	0.484
Government regulation	8	0.906	0.865	0.000	0.918	0.584

5. Model construction and effect analysis

In order to ensure that the interview variables can be fully tested, the relationship between the hypothesis variables of the initial model is studied. Five models were obtained after four rounds of theoretical and exponential correction. According to the fit index, the optimal model is obtained. The path coefficient output table of this model is shown in table 3. The path coefficient diagram shows that the variables of the model design are significantly related, and the validity of the modified model paths is verified. The model standardization effect output table is shown in table 4, which shows the direct and indirect effects of low carbon in the market, government regulation and social norms and restaurants.

Table 2. Fit model

Model	DF	X2	CMIN/DF	RMSEA	NFI Delta1	TLI rho2	CFI	GFI	PGFI	AIC Default model
Fit model	464	667.733	1.439	.043	.906	.957	.968	.881	.614	1071.733

$$f1=0.786* X11+0.861* X12+0.611* X13+0.452* X14 \tag{1}$$

$$f2=0.745*X21+0.835*X22+0.789*X23+0.872*X24+0.637*X25+0.743*X26+0.665* X27+0.798* X28 \tag{2}$$

$$f3=0.539*X31+0.838* X32+0.741* X33 \tag{3}$$

$$F=0.393foctor1+0.182foctor2+0.297foctor3+X \tag{4}$$

Standardized model obtained P`
$$P`= (0.393f1+0.182 f2+0.297 f3+X)/0.881 \tag{5}$$

5.1. Market, government regulation and social regulation are important factors of low carbon in hotel

The results show that the market factor is an important factor of low-carbon hotel, and its influence coefficient is 0.393. Compared with government regulations and social norms, the impact is the most important, which confirms the degree to which the stakeholder needs reflect the low carbon behavior of enterprises under pressure. The influence coefficient of government regulation on low-carbon hotel behavior is 0.18 2, its influence is smaller than social standard and market. However, government regulation is affected by social norms and the direct impact of the market, and market demand may play a driving role in the low carbon regulation of the government. Social norms have great direct effect on the market and government regulation, respectively, 0.401 and 0.483.It shows that social public opinion and social membership norms are important factors in the market and government regulation.

5.2. Special presentation of regulation theory on low carbon in hotels
The conclusion of the study shows that both the market and the government regulation affect the low carbon behavior of the hotel indirectly, which proves the real existence of the influence of the government and the external sex of the market in the regulation theory. At the same time, the market environment has positive impact on government regulation, or the market environment is one of the prerequisites for government regulation. Whenever the market environment changes, government regulation will be affected by the market environment. This is different from the traditional theory of regulation. The market is not a prerequisite for government regulation because of failure, nor is government failure a prerequisite for regulation. The coordination and complementarity between the market and the government in the comparative institutional analysis is not the coordination and complementarity of disorder in the empirical test, and the market environment is the influencing factor of government regulation. According to the empirical conclusion of this study, on the low carbon problem of hotels, the government regulation method should respond according to the market environment condition, and on the basis of further market environment segmentation and research. Take corresponding measures. We should not copy and copy the rules and regulations of production-oriented enterprises to jump to conclusions.

5.3. Social norms are the important influencing factors beyond the perspective of economics
The conclusion of the study shows that social norms have positive influence on the market environment and government control, and indirectly influence low carbon behavior of hotels. This shows that the ethical factors represented by social norms are closely related to the economic factors represented by the market environment. Economy and ethics, as external factors of low carbon behavior in hotels, play a role at the same time. The indirect effect of social norms on low carbon behavior in restaurants is second only to the market environment, and even higher than the role of government regulation. Therefore, it can be considered that social norms are an important low-carbon influence factor in hotels outside the economic horizon. In the study of low-carbon hotel policy, we should not only take into account the role of government regulation and market, but also consider how to deal with it on the ethical level. By building a positive atmosphere of public opinion, the effect of indirectly affecting the environmental behavior of hotels is achieved.

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