

# Study on green technologies and skills of tourism enterprises in Huangshan City based on environmental protection perspective

**Jun Bao**

School of Tourism, Huangshan University, Anhui, China

\*Corresponding author e-mail: baojun@hsu.edu.cn

**Abstract.** With the rapid development of China's economy, air pollution, environmental degradation and other ecological problems emerge in an endless stream, a great threat to human health. In this context, the ecological civilization, sustainable development, economic transformation and upgrading and other green ideas emerge as the times require, and are highly concerned by the government, enterprises, academia and the public. From the perspective of tourism enterprises, through empirical research, this paper analyzes the influencing factors of green technologies and skills in tourism enterprises, and constructs the impact mechanism model of green technologies and skills. Put forward to promote enterprises to implement green management intention, suggestions to promote the practice of green technologies and skills.

## 1. Introduction

With the rapid development of industrialization and social economy, the ecological problems such as air pollution and environmental degradation emerge in endlessly. In this context, the ecological civilization, sustainable development, economic transformation and upgrading and other green ideas came into being, by the government, enterprises, academia and the public attention and recognition.[1]As the main force to promote economic development, enterprises should actively take social responsibility, environmental protection measures to effectively curb environmental pollution, environmental science management system, resource saving and environment friendly concept and establish a green corporate image, the formation of unique competitive advantage. The national level to vigorously promote energy-saving emission reduction and low carbon economy such as the concept of sustainable development, some enterprises have a positive response, active implementation of resource conservation and environmental governance behavior of low carbon social responsibility, but the implementation is not ideal.[2]In addition, the academic circles also have enterprise green management issues,the positive relationship between human resource management perspective is the core function of enterprise green and enterprise performance and competitive advantage results in output have been recognized by many scholars.Obviously, enterprises should actively implement green management to achieve the strategic advantage of the first mover, but the actual situation is quite different from that of the enterprise. Based on the above analysis, the enterprise green skills training as the only way which must be passed green skills of human resource management, and actively promote the enterprise green skills development model to achieve the great significance, and



face the fact that the lack of enterprise green management, the mechanism is very important in exploring the impact of internal factors.

## 2. Literature Review

Klassen and Whybark (2013): an empirical study found that pollution prevention technologies have significantly positive influence on production performance and environmental

performance, and pollution control technology on production performance and environmental performance improvement is not significantly related to a certain extent that the relationship between green technology and enterprise performance management. [3]

Theyel(2003) research on large samples showed that the total quality management, supplier certification, research and development, employee participation in environmental management practice is to improve the output effect of enterprises in the environment of innovation and environmental performance.

Li Xiu and Wei Jinxiu (2006) theory of green human resources management staff as an important resource of the enterprise, continuous training and investment to meet the needs of employees, employees continue to grow, to improve the capability of staff at the same time, but also for enterprises to improve the performance of the stock of human capital accumulation, to achieve sustainable development of enterprises .

Ones and Dilchert(2012) study that the reconstruction of the human resource management system helps to promote the enterprise management and staff use efficient sewage and production technology, [4]environmental protection enterprises increase production, reduce energy waste, improve energy efficiency, and promote enterprise environmental performance improvement.

Miller and Allen (2000) pointed out that the organizational identification, namely the individual on much of themselves as members of the organization, which agree with the organization's mission, [7] organizational values and organizational goals, and various organizations will be interest in management decision. Bergami and Bagozzi (2000) research show that organizational identification has a significant positive impact on organizational citizenship behavior, [5] while organizational citizenship behavior is obviously conducive to the increase of enterprise performance.

Positive effect of green human resources management and business performance has been unanimously recognized by academic circles, green skills training as the key to the implementation of human resource management in the green process, this should be an important way for enterprises to carry out management innovation, the actual result is not, so explore factors affecting the development of green skills training mode of this behavior will be put on the agenda. [6]However, the literature search found that the study on green skills training mostly depend on the green human resources management on the overall concept, the lack of its own in-depth study, study the influence factors mechanism of pre is scanty, only through the relevant academic achievements of green human resources management from the perspective of macro indirect snooping, [8] Therefore, from the micro perspective, this paper explores the pre influence factors of green skills training in enterprises, and on this basis, provides countermeasures and suggestions for the realization of green skills training from multiple levels.

## 3. Research framework

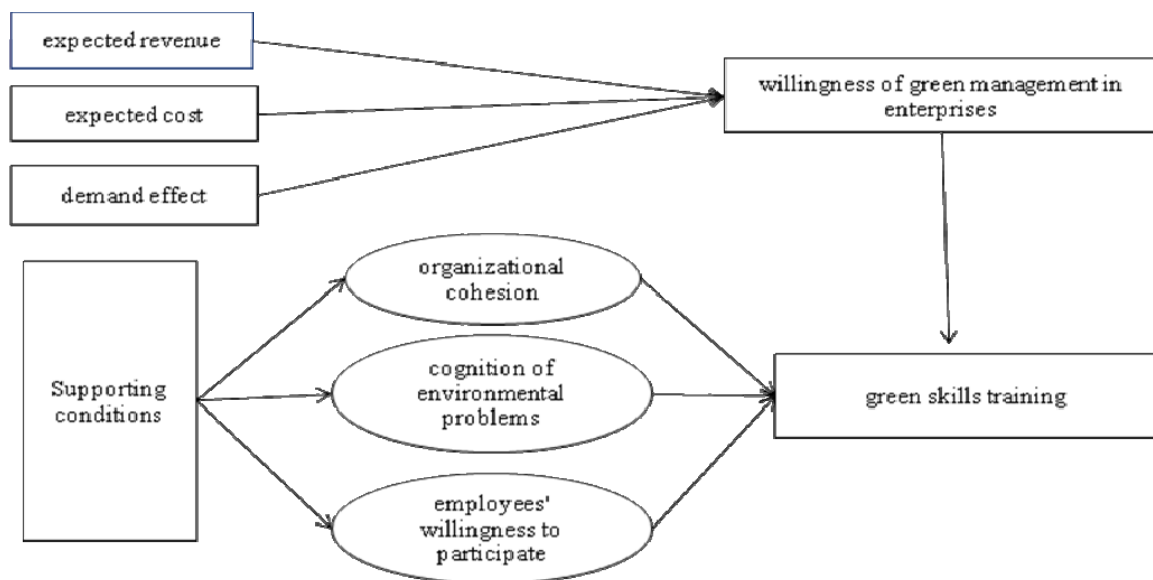
### 3.1. Research ideas

Study on tourism environmental protection point of destination residents, most of them focus

on the government to start, this paper from the angle of the tour enterprises, green skills training activities and the impact of research on tourism enterprises.As a new industry of the third industry, tourism has become a representative of environmental protection and clean industries, and has made important contributions to the social and economic growth, However, the degree of introducing green skills training in this industry is obviously different, So this paper takes the Huangshan City tourism enterprises as the research object, the expected return and expected cost, demand effect, support

conditions as independent variables, green enterprise management will as intermediary variables, green skills training for actual behavior as the dependent variable, to test the influence of independent variables on the actual behavior.

Among them, the expected revenue refers to the enterprise to carry out green skills training this new management attempt expected future returns, such as: environmental performance, industry competitiveness, environmental subsidies, etc.. The expected cost refers to the time, energy and capital invested by the enterprise in the process of developing green skills training. The demand effect refers to customers, suppliers and other stakeholders of low-carbon and green service demand, specific to the tourism enterprises as customers, transportation, hotel services, scenic area management office and other relevant organizations of the green management awareness. Support conditions refer to the degree of support for the implementation of green skills training within the enterprise, including organizational cohesion, environmental awareness, and willingness to participate. The research framework is shown in Figure 1.



**Figure 1.** Research framework

### 3.2. Research method

In this paper, using Likert scale on the main variables, expected revenue, expected cost, demand effect, environment cognition, employee participation, green management and green skills training will measure. Specific contents are shown in Table 1:

**Table 1.** Subdivision of variables

variables	measurement items	
expected revenue	Reduce the cost of enterprise, improve enterprise performance	
	Set up good reputation image of enterprise	
	Forming unique advantages	
	Improving employees' learning ability and organizational cohesion	
expected cost	Affect the normal operation of enterprises	
	Cause greater management risk to the enterprise	
	Significantly increase the cost of enterprises	
demand effect	Attract more tourists	
	Tourists pay more and more attention to tourism company culture	
	Get more strategic collaboration	
Supporting conditions	organizational cohesion	Strong attachment and sense of belonging strong sense of collective
	cognition of environmental	The current social environmental problems are not optimistic the key factor for future competition
	willingness to participate	certain degree of awareness of green management certain degree of awareness of green management
Green management will	The company has implemented green human resources management plan	
	The company wants to develop, improve and perfect the green management method	
	The company wants to develop, improve and perfect the green management method	
Green technologies and skills	(GST1)	In the training courses devoted to environmental protection knowledge
	(GST2)	The company will carry out the psychological test regularly to staff
	(GST3)	The company will train the cultural qualities of the tourist attractions
	(GST4)	The company will train the staff in career planning

### 3.3. Data collection

This research takes Huangshan City tourism industry practitioners as the research object, using the questionnaire collected questionnaires, 357 questionnaires, 265 questionnaires were recovered, after careful screening, the final 226 valid questionnaires, the effective recovery rate was 63.3%, can be used for further data analysis.

The final statistics of the survey results, according to the survey by sex, male employees accounted for 42.1%, female employees accounted for 57.9%; by the age division, 20-30 accounted for 44.6%, 30-40 accounted for 35.4%, 40 years of age accounted for 20%; according to the length of service division, 1-5 accounted for 22.3%, accounting for 5-10 48.8%, more than 10 years accounted for 28.9%; according to the education division, master degree or above accounted for 6.2%, accounting

for 48.5% of the undergraduate education, college education accounted for 22.5%, and high school education accounted for 22.8%.

#### 4. Empirical analysis

##### 4.1. Reliability and Validity Analysis

In this paper, the confirmatory factor analysis was performed using AMOS21.0 software, the descriptive statistical analysis using spss19.0 software, and calculated the average variance extracted variables (Average Variance, Extracted, AVE) and comprehensive reliability coefficient (CR).

From the results of confirmatory factor analysis, the fitting index of the main variable measurement model is as follows:  $\chi^2$  (226)=419.373(p=0.000),  $\chi^2/df$ =3.192, RMSEA=0.079, NFI=0.902, CFI=0.901, IFI=0.886, RFI=0.922, The goodness of fit is within the critical range, indicating that the fitting relationship between the measured model and the data is better. The Cronbach alpha coefficient and the comprehensive reliability coefficient were all greater than the minimum critical standard 0.7, and the measurement reliability was test. On the other hand, based on past experience, the average variance extracted more than 0.5 variables, the convergent validity test of correlation coefficient square root of a variable is greater than the variance between the average extraction variables and other variables, then the discriminant validity through verification. The average variance extracted values meet the requirement, convergent validity and discriminant validity verified by measurement.

##### 4.2. Descriptive statistics and correlation coefficients

**Table 2.** Descriptive statistics and correlation coefficients

	mean value	standard deviation	1	2	3	4	5	6
1. expected revenue	4.3525	1.28574	0.519					
2. expected cost	3.8364	1.27586	0.236*	0.529				
3. demand effect	4.2132	1.35827	0.070	0.179*	0.569			
4. Supporting conditions	4.1137	1.29683	0.221*	0.197*	0.031	0.529		
5. willingness of management	3.7943	1.39587	0.429***	-0.239**	0.431***	0.326**	0.529	
6. green technologies and skills	4.2034	1.24568	0.339***	-0.219**	0.335***	0.278**	0.689***	0.526

Notes: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

#### 5. Conclusion

##### 5.1. Research conclusion

In this paper, on the basis of existing research, construction enterprises to implement green skills training model of factors affecting the combination of dimensions and their willingness, green to green management technologies and skills model of the impact mechanism, and formed some conclusions through empirical research: Expected return and demand effect have significant positive influence on the willingness of green management; The impact of expected cost on green management intention was not examined by significance test; Organizational cohesion, environmental awareness and willingness to participate have significant positive effects on green skills training; The mediating effect of green management will be significant in the relationship between expected revenue, demand effect and green technologies and skills.

### 5.2. *Research enlightenment*

In this paper, based on the literature review, the specific circumstances of its classic dimension and green human resources management, green skills training combined with the mechanism of influencing factors of construction of enterprise green management will explore a comprehensive factor model for enterprises to carry out green skills training, providing a new perspective for the study of this field, make up the shortage of current research.

The research results of this paper are of great significance for promoting the innovation of green management and the implementation of green skills training. First, demand has a significant impact on the willingness of green management. Therefore, the government should first choose the industry leading enterprises, to give the corresponding preferential policies, and help them build green skills training system, the use of the industry, the brand influence to promote the interest related to enterprise management innovation, the implementation of green management; Secondly, although the research results show that the expected cost is affecting the cost of green management pay significant innovation of green management will not, may be subject to special effects of the tourism industry, in other industries to promote the green management of enterprises to reduce the learning cost is crucial to green management. The government should establish the enterprise training institutions, such as occupation technical college education green skills training system, form the system of the occupation training courses, reference for enterprises to carry out green skills training, reduce the management cost of innovation; Thirdly, as an economic organization, the expected return of enterprises plays a decisive role in its strategic choice and management methods. In order to promote the construction of green enterprises as soon as possible organization skills training system, the implementation of green management thought, the government should support related policy process of green management in the formulation of the system level, and construct the evaluation index of the degree of green management, enterprise reporting initiative, professional institutions rated the enterprise green management rating for highly rated companies to give tax cuts, subsidies and public recognition of material and spirit award, in order to improve the expected return of enterprise green management.

### **Acknowledgments**

This work was financially supported by the following Anhui Social Sciences funding (Subject number: SKHS2017B09)

### **References**

- [1] Robertsonl, Barling J. Greening Organizations Through Leaders' Influence on Employees' Pro - Environmental Behaviors[J]. *Journal of Organizational Behavior*, 2013,(2) .
- [2] Venkatesh V, Morris M, Davis G B, et al. User acceptance of information technology: Toward a unified view[J]. *MIS Quarterly*, 2003, 27(3):430-450.
- [3] Ones DS and Dilchert S. Environmental sustainability at work: A call to action[J]. *Industrial and Organizational Psychology*, 2012, 5(4):444-466.
- [4] Davis F D. Perceived usefulness, perceived ease of use, and user acceptance of information technology[J]. *MIS Quarterly*, 2009, 13(3):319-340.
- [5] Miller, V.D., Allen, M., Casey, M.K., et al. Reconsidering the Organizational Identification Questionnaire [J]. *Management Communication Quarterly*, 2010, 13(4):626-658.
- [6] Hart SL. A natural-resource-based view of the firm[J]. *Academy of Management Review*, 1995, 20(4):986-1014.
- [7] Jabbour CJC. Environmental training and environmental management maturity of Brazilian companies with ISO14001: empirical evidence[J]. *Journal of Cleaner Production*, 2013(11).
- [8] Hoppock, R. Job Satisfaction[M]. New York: Harper and Brothers Publishers, 1935:109-117.