



# The Impact of Brand Design on Social Group Recognition and Participation in Chinese Education NGOs: An Analysis Utilizing the KANO Model

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## ABSTRACT

Brand design has become an essential tool for many Chinese educational NGOs to enhance their competitiveness and influence. However, the optimization of brand design to boost the influence of these NGOs has received little attention. This study utilizes four brand design concepts—cognitive design, emotional design, social design, and functional design—as influencing factors, with social group recognition and participation of Chinese educational NGOs serving as the criteria for measuring influence. Based on the KANO model, it identifies new driving mechanisms and constructs a theoretical model illustrating how brand design affects the social group recognition and participation of these NGOs. By assessing the impact of cognitive design, emotional design, social design, and functional design on the branding effect of Chinese NGOs, this study aims to establish new pathways for brand design within these organizations. The research is carried out through empirical studies using collected questionnaire data. It employs a survey method, initially distributing 84 questionnaires to a social organization in Henan, China, for preliminary research, followed by collecting random questionnaires from government agencies, NGOs, universities, and other participants, totaling 435 responses. According to the analysis results, emotional design has the strongest impact on social group recognition. When designing brands, Chinese NGOs should prioritize enhancing emotional design to achieve emotional resonance with the social group, which will help improve the NGOs' social recognition and increase participation from the community. Cognitive design follows in importance, followed by social design. Functional design does not significantly impact the social recognition of NGOs in China, which aligns with the current social development situation in the country. In brand design, functionality is not heavily emphasized in China.

**Keywords:** Chinese Educational NGO Branding; Social Group Recognition; Social Group Participation; KANO Model.

## Introduction

Educational non-governmental organizations (NGOs) have become key drivers in addressing global education issues and promoting the sustainable development of regional education. China's rapid economic development has brought several challenges, among which education is particularly prominent. Some regions emphasize economic development significantly but lack focus on education, along with insufficient publicity and guidance, resulting in issues with equity, accessibility, and recognition in education. Educational NGOs play a crucial role in addressing these challenges, and over the past decade, they have garnered policy attention from the Chinese government and increased social interest. This indicates that China has acknowledged the social value of educational NGOs. Chinese educational NGOs have emerged as an important progressive force for national development in the new era. By the end of 2021, China had a total of 902,000 social organizations, a 0.9 percent increase from the previous year, and 11 million people employed in various types of social organizations, marking a 3.6 percent increase over the prior year (Table 1).

**Table 1 Classification of Chinese NGOs by hierarchical authorities in 2021**

Index	Social Groups	Foundation	Private Non-Enterprise Units
Total	371110	8877	521883
Registration of Ministry of Civil Affairs	1972	215	92
Registration of Provincial Civil Affairs Department	32105	5994	15267
Registration of Municipal Civil Affairs Department	90690	1877	65321
Registration at the Civil Affairs Department of the County	246343	791	441203

The strength of an Educational Non-Governmental Organization (NGO) determines its impact, which in turn affects how effectively it functions. From the perspective of volunteers, donors, or investors, a strong brand image and positive experience enhance an organization's overall strength, thereby increasing its social impact. The significance of logos as a crucial element of NGO branding is widely acknowledged, as they encapsulate an organization's values and mission, serving as a visual representation of its principles and goals (Keller, 2003). Logos can create instant recognition for NGOs, and trust is built over time; a consistent and well-designed logo contributes to establishing credibility (Aaker, 1997).

The growth of non-governmental organizations (NGOs) in China has garnered increasing attention, with research focusing on how these organizations can enhance their social acceptance through publicity and effective communication strategies. Regarding publicity, due to the unique characteristics of Chinese society, NGOs typically depend on official platforms for promotion, and their organizational logos tend to be simplistic and often overlooked, resulting in lower participant engagement. As for communication strategies, with the rise of digital media, NGOs utilize social platforms to boost brand awareness and involvement (Zhou & Pan, 2016). However, their lack of creativity makes public recognition challenging. Scholars have conducted a brief survey on the influence and social recognition of NGOs in China and found both to be low, indicating that current communication methods are inadequate. It has been suggested that distinctive organizational logos can help NGOs stand out in a crowded market, enhancing visibility and differentiating them from others (Xu & Byrne, 2021). Nonetheless, many NGOs may not understand the significance of branding in creating a strong social image, which renders them less sustainable and more susceptible to dissolution (Smith, Fischer & Yongjian, 2012).

Previous studies indicate insufficient discussion regarding the impact of Chinese Educational NGO brand design on social group recognition and participation. Utilizing the KANO model, this paper examines the effects of brand design on social participation and the underlying mechanisms from the perspective of Chinese Educational NGOs. This study seeks to offer a theoretical reference for improving the social recognition and influence of Chinese Educational NGOs.

## Models and Hypothesis

The KANO model was introduced by Japanese scholar Noriaki Kano in 1979. Its core idea is that the relationship between the characteristics of products or services and customer satisfaction is not a simple linear one. Some characteristics, even when performed well, may be perceived by customers as expected, while others may not significantly impact their satisfaction. Based on product characteristics and customer satisfaction, demand can

be categorized into five groups: 1. Attractive attributes: features that customers do not explicitly express as needs, but when provided, significantly enhance customer satisfaction; 2. Performance attributes: features that customers anticipate will enhance their satisfaction when available and diminish it when lacking; 3. Basic attributes: features that customers believe a product or service must possess, where the absence leads to a significant decline in satisfaction, but presence does not positively affect it; 4. Indifferent attributes: features that customers do not care about, providing or not providing them has no effect on satisfaction; 5. Reverse attributes: features that customers do not want; providing them results in decreased satisfaction. The KANO model serves as an effective tool for categorizing and ranking user needs and has been widely applied in the design field of public services (Wang & Kou, 2019).

According to the KANO model, a strong correlation exists between customer satisfaction and whether a customer's specific product needs are met. In the realm of Chinese Educational NGOs, the attentiveness of social groups toward these organizations has become increasingly evident; thus, theoretically, the ability of Chinese Educational NGOs to capture the attention of social groups through design determines, to some extent, the level of recognition and participation from these groups. Considering the context of Chinese NGO brand design alongside the preferences and needs of social groups, and referencing the theoretical insights of scholars such as Wang (2023), Chen, and Li (2024), it can be initially summarized that the brand design of Chinese NGOs should focus on four dimensions: cognitive design, affective design, social design, and functional design. Cognitive design pertains to the creation of Chinese NGO brands that emphasize expanding knowledge and awareness among social groups in a particular field, igniting their interest and enthusiasm in that area. Emotional design implies that the brand of a Chinese Educational NGO should be crafted to evoke positive emotions in social groups through elements like emotional resonance, belonging, and enjoyment. Social design indicates that the branding of a Chinese Educational NGO should ideally reflect interaction with social groups, thereby enhancing their sense of identity, value, and social recognition. Functional design suggests that the brand design of Chinese Educational NGOs should foster positive perceptions regarding practicality and increase motivation for participation. The specific theoretical assumptions will be further developed below.

First, incorporating rich historical and cultural elements into the brand design of Chinese educational NGOs can connect historical context with the modern setting. This approach subtly fulfills the educational mission of these organizations and piques social groups' curiosity and interest in specific cultures and histories. At the same time, it creates a unique cognitive experience for these groups, drawing their attention to Chinese educational NGOs. Secondly, by linking the brand story to the social group's memories, emotions, or personal experiences, the emotional design of Chinese educational NGO brands can evoke positive feelings like nostalgia, novelty, leisure, and satisfaction within the group. This emotional resonance can fulfill their aesthetic and emotional needs, further enhancing their attention and recognition of the organization. Thirdly, including unique, collectible, and interactive elements in the branding process of Chinese educational NGOs can provide social groups with more interpersonal experiences. This strategy can help these groups gain social capital in terms of relationship building, emotional maintenance, and social identity, thus increasing their attention and recognition. Finally, brand design for Chinese educational NGOs should prioritize practical use, where aspects like patent price and collection value focus on enhancing social recognition of these organizations. Therefore, emphasizing the unity of aesthetics and practicality, along with the balance of quality and price in Chinese educational NGO brand design, is crucial in stimulating social groups' perception of value for money and boosting their recognition. In summary, the hypothesis can be formulated:

H1: Chinese Educational NGO branding can enhance social group recognition.

H1-1: A brand cognitive design for Chinese Educational NGOs can enhance group recognition;

H1-2: Chinese Educational NGO brand emotional design can enhance social group recognition; H1-3: Chinese Educational NGO brand social design can enhance consumer degree;

H1-4: Chinese Educational NGO brand functional design can enhance social group recognition.

Additionally, according to consumer theory, satisfying consumer needs is a crucial antecedent variable affecting their willingness to purchase (Wang, 2023). Likewise, the recognition of Chinese Educational NGO brands by social groups will impact their willingness to participate. This influence arises because cognitive, emotional, and social interactions, along with brand functionalities, can provide positive emotional value to social groups and enhance their recognition of the Chinese Educational NGO brand. Greater recognition indicates that the organization's charisma, desired attributes, and essential qualities align with the expectations of the social group, which helps stimulate their willingness to engage with the organization. In summary, the following hypothesis can be proposed:

H2: Chinese Educational NGO branding design enhances social groups' willingness to participate by improving recognition.

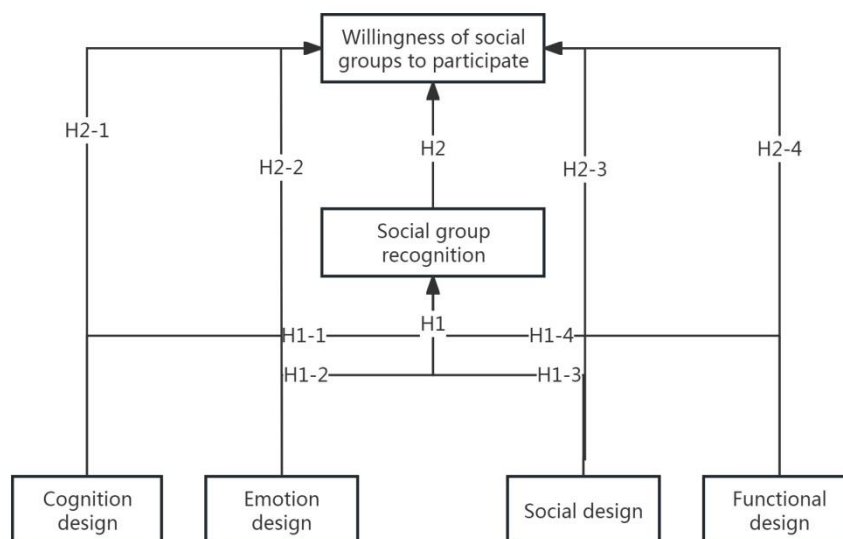
H2-1: Chinese Educational NGO brand cognitive design enhances social groups' willingness to participate by increasing social groups' recognition;

H2-2: Chinese Educational NGO brand effective design enhances social groups' willingness to participate through enhancing social groups' recognition;

H2-3: Chinese Educational NGO brand social design enhances social groups' willingness to participate by enhancing social groups' recognition;

H2-4: Chinese Educational NGO brand functional design enhances social groups' willingness to participate by enhancing social groups' recognition.

Taking the above analyses together, the following theoretical model was constructed (see Figure 1).



**Figure 1 Conduction Logic Diagram**

## Research Design

### (i) Questionnaire design

The sources of the question dimensions included in the questionnaire design are listed below. Based on the scales developed by Sirgy et al. (2017) and Chen and Li (2024), four dimensions of brand design for Chinese Educational NGOs were incorporated in this study: cognitive design, emotional design, social design, and functional design. The fifth dimension is social group recognition, which was contextualized by referencing the scale created by He (2022). In reference to the purchase intention scale by Wang (2024), the sixth dimension is the willingness of social groups to participate. Each dimension encompasses multiple questions, all using a 7-point Likert scale. Furthermore, to enhance the scientific design of the questionnaire, 84 surveys were distributed to a social educational organization in Henan Province, China, for pre-testing, and the questionnaire was refined according to the statistical results to ensure that the items were scientifically valid and reasonable.

### (ii) Data sources

The data were obtained in two ways: through an online questionnaire on the “Wenjuanxing” platform for participants who have engaged with or paid attention to Chinese Educational NGOs, and through offline research involving random sampling from governmental agencies, NGOs, and universities.

A total of 435 questionnaires were collected, resulting in 362 valid responses after excluding invalid ones, giving a validity rate of 83.22%. Statistics on the sample population's basic information revealed that there were 175 male and 187 female respondents, accounting for 48.34% and 51.66%, respectively. Regarding age, 52.18% of the respondents belonged to the ‘00’ generation, showing a strong interest in Educational NGOs.

### (iii) Questionnaire reliability and validity test

The statistics of the questionnaire reliability parameters are presented in Table 2. The reliability coefficient values for cognitive design, emotional design, social design, functional design, social group recognition, and willingness to participate in social groups are 0.817, 0.834, 0.905, 0.937, 0.852, and 0.895, respectively, all of which meet the requirements. Furthermore, the principal component analysis indicated that the common factor variance extraction, factor loadings, and mean extracted variance values of the scale conformed to the standard, demonstrating that the internal consistency and explanatory power of the questionnaire dimensions were strong. Overall, the reliability and validity of the questionnaire were quite satisfactory.

Variable	Measurement items	Common factor variance	NFopt	Average extraction of variation	Reliability factor
Cognition design (RZ)	Cognition design has increased my understanding of the history and culture related to this NGO	0.79	0.84	0.875	0.817
	Cognition design sparked my interest in the history and culture related to this NGO	0.83	0.78		
Emotion design (QG)	Emotion design makes me feel that this NGO will allow participants to relax and enjoy themselves	0.82	0.81	0.836	0.834
	Emotion design makes me feel that this NGO makes me feel novel and surprised	0.73	0.85		
	Emotion design products of this brand satisfy my aesthetic taste	0.76	0.86		
	Emotion design gives me an emotional sense of belonging	0.82	0.79		
Social design (SH)	Social design makes me feel that this NGO can help me expand my interpersonal relationships	0.79	0.75	0.905	0.905
	Social design can showcase my personality and taste	0.77	0.76		
	Social design has earned me praise and recognition from others	0.75	0.82		
Functional design (ST)	Brand design with strong practical functions is very important	0.81	0.76	0.914	0.937
	The overall cost-effectiveness of brand design should be higher	0.84	0.85		
Social group recognition (XM)	I am very satisfied with the brand design	0.85	0.82	0.893	0.852
	The brand design meets my expectations	0.88	0.77		
Willingness of social groups to participate (XG)	I will definitely participate in the NGO represented by this brand	0.75	0.82	0.884	0.895
	I will consider joining the NGO represented by this brand	0.72	0.76		

**Table 2 Questionnaire Reliability and Validity Parameters****Analysis of Results****(i) Correlation test results**

Pearson's correlation analysis was performed using SPSS 23.0, and the results are presented in Table 3. There are significant positive correlations ( $p < 0.01$ ) among RZ (Cognitive Design), QG (Emotional Design), SH (Social Design), ST (Functional Design), and XM (Social Group Acceptance), supporting the hypotheses H1, H1-1, H1-2, H1-3, and H1-4. This suggests that the cognitive, emotional, social, and functional factors in brand design can effectively enhance social group acceptance. Additionally, the cognitive, emotional, social, and functional aspects of brand design significantly improve social group recognition. Furthermore, XG (the willingness of social groups to participate) also exhibited a strong positive correlation with each variable ( $p < 0.01$ ), with XG being most strongly correlated with SH ( $r = 0.419$ ) and QG ( $r = 0.363$ ). This indicates that social and emotional design may play a crucial role in fostering the willingness of social groups to engage. This finding aligns with the KANO model theory, which posits that various dimensions of brand design may correspond to basic, aspirational, and arousal needs while having different effects on social groups' recognition and willingness to participate.

**Table 3 Correlation test results**

variable	1	2	3	4	5	6
RZ	1					
QG	0.214**	1				
SH	0.165**	0.185**	1			
ST	0.137**	0.139**	0.285**	1		
XM	0.158**	0.127**	0.273**	0.256**	1	
XG	0.295**	0.363**	0.419**	0.207**	0.473**	1

Note: \*, \*\*, \*\*\* respectively indicate significance at the levels of  $P < 0.05$ ,  $P < 0.01$ , and  $P < 0.001$ .

**(ii) Result of the direct effect**

According to the framework in Figure 1, we conduct path tests on nine direct impact paths. Before the test, the goodness-of-fit of the model was measured and found that all model fit indicators met high standards: CMIN/DF = 2.012, RMSEA = 0.038, GFI = 0.891, AGFI = 0.902, NFI = 0.933, and CFI = 0.917. These indicators were in line with the standards set by Bagozzi & Yi (1988) and Hu & Bentler (1999), and each fitted value was satisfactory, indicating that the model fit was up to standard and appropriate for conducting path tests. The path test on the model was carried out using AMOS 22.0 software, as shown in Table 4. It was noted that except for the two paths ST→XM ( $p = 0.062 > 0.05$ ) and ST→XG ( $p = 0.073 > 0.05$ ), which did not pass the significance

test, all other hypothesized paths were significant at the 0.05 level and above. This indicated that H1, H1-1, H1-2, and H1-3 were valid, while H1-4 was not valid. Furthermore, some of the path coefficients exhibited a stronger influence, showing that emotional design, cognitive design, and social design significantly affect social group recognition and willingness to participate. Among all the significant path coefficients, affective design (QG) demonstrated the strongest influence on social group recognition (XM) ( $\beta=0.592$ ,  $p=0.006$ ), with impact coefficients exceeding 0.5. This was followed by cognitive design (RZ) with an impact coefficient of  $\beta=0.234$ ,  $p=0.011$ , and lastly social design (SH) with an impact coefficient of  $\beta=0.151$ ,  $p=0.041$ . Additionally, the influence coefficient of social group recognition on willingness to participate in social groups (XG) was  $\beta=0.319$ ,  $p=0.004$ , suggesting that social group recognition plays a significant role in fostering willingness to participate in social groups and may serve as a mediator.

Hypothesis paths	Path coefficient	Standard Error	P-value
RZ→XM	0.234	0.03	0.011
QG→XM	0.592	0.08	0.006
SH→XM	0.151	0.06	0.041
ST→XM	0.003	0.11	0.062
RZ→XG	0.435	0.08	0.005
QG→XG	0.557	0.18	0.002
SH→XG	0.126	0.04	0.018
ST→XG	0.004	0.03	0.073
XM→XG	0.319	0.05	0.004

**Table 4: Direct Impact on Inspection Results**

(iii) Result of the indirect effect

The results of the indirect effects test are presented in Table 5. It is observed that the three indirect influence paths RZ→XM→XG, QG→XM→XG, and SH→XM→XG are all significant, with effect sizes of 0.365 ( $p=0.013$ ), 0.428 ( $p=0.002$ ), and 0.402 ( $p=0.006$ ), respectively. This suggests that hypotheses H2, H2-1, H2-2, and H2-3 are all supported. These effect sizes are substantial, indicating that social group recognition plays a crucial mediating role in the impact of cognitive design, affective design, and social design on the willingness of social groups to participate.

However, the effect size of ST → XM → XG is [0.071], and it fails the significance test ( $p=0.065$ ), indicating that hypothesis H2-4 does not hold and that the mediating role of functional design in the willingness to participate in social groups is not significant. This result implies that the role of functional design may be more indirect or weaker and could be linked to its emphasis on satisfying basic needs rather than emotional or social needs.

Therefore, there is a significant mediating effect of social group approval on how cognitive design, affective design, and social design influence social groups' willingness to participate. In contrast, no mediating effect was found between functional design and social groups' willingness to participate.

This explanation also aligns with the social reality in China, where the functional design of educational NGO brands often struggles to provide direct, substantive benefits. The identification of social groups with these brands relies more on emotional and social identity than on purely functional needs. Consequently, the impact of functional design on promoting satisfaction and willingness to participate among social groups is limited, failing to significantly influence their participation behaviors.

Hypothesis paths	Effect size	Standard Error	P-value	Result
RZ→XM→XG	0.365	0.11	0.013	Y
QG→XM→XG	0.428	0.05	0.002	Y
SH→XM→XG	0.402	0.06	0.006	Y
ST→XM→XG	0.071	0.09	0.065	N

**Table 5 Indirect Impact Test Results**

### Conclusion

To enhance the social recognition and participation of Chinese educational NGOs, it is essential to acknowledge the significant value of Chinese educational NGO brand design and to explore new approaches to this design.

Firstly, we must focus on strengthening cultural inheritance and innovation. Chinese educational NGO brand design should deeply explore and inherit traditional culture while simultaneously incorporating modern creativity, becoming a bridge that connects the past with the present. Secondly, we should prioritize integrating technology and culture, meaning that we can use modern technology to enhance the interactivity and experience of Chinese educational NGOs. Thirdly, it is crucial to improve the overall quality of designers. On one hand, we need to enhance designers' skills and their understanding of the essence of social organizations. On the other hand, it is important to deepen designers' learning and understanding of the education sector so they can reflect the societal educational concepts necessary in their brand design.

This study examines the effect of Chinese Educational NGO brand design on the recognition and engagement of social groups. Using the KANO model, the research systematically analyzes the role of brand design in enhancing social influence across four dimensions: cognitive design, emotional design, social design, and functional design. The findings indicate that emotional design has the most substantial effect on social group recognition. Cognitive and social design can also improve brand recognition among social groups, while the influence of functional design is comparatively weak. This discovery strengthens the connection between brand design and social psychology, providing both theoretical support and empirical evidence for Educational NGO branding in China.

In the current social environment, optimizing Educational NGO brand design in China must consider cultural depth, technological means, and designers' professionalism. Cultural heritage and innovation can provide the brand with a deeper value identity and serve as a bridge between tradition and modernity. Utilizing technology enhances the interactivity and experience of brand communication and expands the channels through which the public can connect with and understand Educational NGOs. The overall quality of designers determines the effectiveness of brand image development. Only a solid foundation in design skills, business insight, and sensitivity to social psychology can create an influential brand image.

The contribution of this study is that it addresses a gap in the research on Educational NGO brand design in China and proposes an optimization path based on the KANO model, providing new perspectives and strategic suggestions for future Educational NGO brand development. However, the study has some limitations, such as not fully exploring the differences in brand recognition and acceptance among various social groups and the long-term effects of Educational NGO brand influence. Future research could further examine how individual characteristics modulate the impact of brand design and investigate the adaptability of brand design in different cultural contexts by incorporating a broader range of data samples.

Overall, brand design is a crucial method for Educational NGOs to shape their brand image and serves as a key lever to enhance recognition and engagement among social groups. As society evolves and public awareness of participation grows, the brand design of Chinese Educational NGOs must continually innovate to establish a connection with the public and promote the sustainable development of social welfare initiatives using more precise strategies.

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