Research on the Indicator System and Model of Marketing Ethics Evaluation

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Abstract—In this paper, exploratory factor analysis and structural equation model are used to study on the marketing ethics evaluation. The indicator system and structural equation model are also construed. At last, the empirical research proves the validity of the evaluation model.

Keywords—marketing ethics; evaluation method; exploratory factor analysis; structural equation model

1. Introduction

The research on marketing ethics started by American scholars at the 1960s. From the 1980s, more and more scholars from various counties paid more attention to this subject and made a lot of achievement. The discussion before can be divided into several categories as follows: general conceptual presentations (e.g., Baumhart 1961 et al.) ; special topic conceptual discussions including such areas as purchasing (Cummings 1979 et al.), sales personnel (Rudelius 1980 et al.), marketing research (Blankenship 1964; Tybout and Zaltman1974), new product development (Varble 1972) and international marketing (Kaikati and Label 1980); model or theory based conceptual presentations(Ferrell and Gresham 1985 et al.); and survey based empirical investigations (Chonko and Hunt 1985 et al.).

The previous research has gained a complete and scientific understanding of marketing ethics. However, relatively few academic articles have researched systematically how many factors affect the marketing ethics and what the relationships do exist among them.

In this paper, we first establish the marketing ethics evaluation indicator system by exploratory factor analysis. Then we use structural equation to build the evaluation model on marketing ethics and carry out empirical research. At last, we give out the conclusion.

2. The Evaluation Index System

2.1 The evaluation index system

Up to now, although scholars choose different evaluation index system and get different research conclusions, there is no uniform evaluation system on marketing ethics. So the further research of evaluation index system is still needed. Through related literature study and analysis, we primarily design the evaluation indicator system as shown in TABLE I:

Table I Indicators system of marketing ethics evaluation

Evaluation indicators
Providing the real product information（X1）
Providing the real advertising information（X2）
Providing the real price information（X3）
Doing as his pledges（X4）
The fulfillment of community responsibility（X5）
the attitude of vulnerable groups（X6）
Participate in public benefit activities（X7）
production of environmental protection（X8）
pollution control（X9）
Care for the environment (X10)
Providing the punctual services（X11）

product safety（X12）	
product quality（X13）	
product design（X14）	
ethical products（X15）	
price fairness（X16）	
price gouging （X17）	
misleading pricing（X18）	
price fairness（X19）	
price discrimination（X20）	
exclusive distribution rights（X21）	
channel control（X22）	
advertising ethics（X23）	
ethical values of sales people（X24）	
corporate ethical decision making（X25）	
ethical norms and codes of ethics（X26）	
green marketing（X27）	
Imitation of other companies products（X28）	
Imitation of other companies brand（X29）	
Unfair competition（X30）	
Harm the interests of competitors（X31）	
Exclusive and other forms of discrimination（X32）	

2.2 Data sourcing

The data of this study was obtained through questionnaires from Chinese consumers and marketing professionals. The importance of the factors are classified into very important, important, general, not important and quite not important, respectively weight denoted by 5, 4, 3, 2, 1 point.

Each survey objects were mailed a packet containing a cover letter, questionnaire, and postage-paid return envelope. In This survey we distributed 400 questionnaires and received 326 valid questionnaires. Effective recovery rate is 81.5%.

Marketing professionals required in the investigation were either directly or indirectly involved in selling activities. Consequently, the professionals were classified based on answers provided on a "position title" item so that persons performing a selling function were included in the finalized samples. The sample demographic characteristics as shown in TABLE II:

TABLE II demographic characteristics

Characteristics	Percent(%)
Gender	
male	48.3
female	51.7
employment	
Full—time	46.7
Part—time	12.0
Retired	28.2
Not employed	12.6
Occupation	
White collar	60.2
Blue collar	39.8
Age	
20—29	12.6
30—39	22.1
40—49	20.3
50—59	28.2
60 or older	26.8
Marital status	
Married	62.3
Single	29.1
Divorced	3.2
Separated	2.8
Widowed	3.6
Education	

8th grade or less	1.6
High school incomplete	5.3
High school complete	11.2
Some college	18.1
Bachelors degree	40.2
Post graduate	23.6

2.3 Exploratory factor analysis of evaluation index

In this study, we use the method of principal component analysis and Varimax of factor analysis. At first, 326 copies of survey sample data will be transferred to SPSS15.0, and then be given the factor analysis , using the standard is the eigen value bigger than and factor loading greater than 0.5, after the rotation we extracted four factors. To get rid of those cross-falls of different factors, or in all four factors was not significant on the evaluation indicators, and after adjustments for some indicators, we can receive a evaluation index structural system containing 4 factors evaluation including the 22 evaluation indexes. Evaluation indexes on the four factors and four factors of the load characteristics of the principal component values, the variance contribution rate, and the cumulative variance contribution rate are shown in Table III.

Table III The result of exploratory factor analysis

Evaluation index	Factor 1	Factor 2	Factor 3	Factor 4
X5	0.606			
X6	0.724			
X7	0.639			
X8	0.644			
X9	0.586			
X10	0.750			
X1		0.892		
X2		0.646		
X3		0.797		
X4		0.535		
X11		0.661		
X26		0.623		
X28			0.849	
X29			0.704	
X30			0.597	
X32			0.767	
X12				0.709
X13				0.895
X16				0.804
X19				0.733
X23				0.599
X27				0.815
The principal component eigenvalue	5.614	3.659	2.395	1.813
The contribution rate of the principal c component of variance（%）	32.528	23.606	18.342	11.493
The cumulative contribution rate of component of variance（%）	32.528	56.134	72.476	85.969

According to Anderson and Gerbing, when the factor loadings is greater than 0.7, it indicates that the model possessed convergent validity and discriminate validity. The study shows that total scale and all subscales of the characteristics of the principal component values are greater than 1; the variance contribution rate is greater than 0.5; the evaluation index of the factor loadings were greater than 0.5 and the vast majority is grater than 0.7. All these figures indicate that factors on the interpretation of the variance are relatively high and the structure of each subscale validity is relatively high.

The indexes above can be summarized into 4 kinds. Factor 1 is named social responsibility factor; factor 2 is named credibility factor; factor 3 is named customer value factor and factor 4 is named fair competition factor.So we construct the comprehensive evaluation index system evaluation on marketing ethics.

3. The Evaluation Index Model

3.1 Evaluation of the Model Construction

Based on the evaluation of projects and the structural relationship between the evaluation indexes, combined with the principle of structural equation model, this paper build the marketing ethics evaluation model as shown in figure Ⅰ.

In the evaluation model, F1, F2, F3 and F4 means that social responsibility factor, credibility factor, customer value factor, fair competition factor. The indexes of F1, F2, F3 and F4 are considered as latent variables of F0 while those indictors from X1 to X21 are considered as significant variables. The evaluation model shows that F1, F2 and F3 affects F4, and F1 influences F3 in consequence.

In the evaluation model, the paths of the model shows the relationships between different indicators. As a result, the overall model structure can realize the overall quantitative assessment.

3.2 Model Checking

- Reliability testing. Reliability means reliable. It refers to credibility and stability of the results, as well as the degree of the consistency of the measurement. In this survey, Cronbach α was used to analyze and SPSS15.0 to calculate. Cronbach α coefficients ranged between 0 and 1. The higher α value is, the greater reliability is. According to Nunally study, when α is greater than 0.8, it indicateds an excellent internal consistency, α from 0.7 to 0.8, better, for the minimum acceptable 0.7. The above table shows that all subscales and total scale of the Cronbach α ranged between 0.823 ~ 0.912 in this survey, indicating a high reliability of the scale.

- Validation. Validity refers to the validity or accuracy of the measurement results. The data transferred by SPSS15.0. According to Anderson and Gerbing , when the factor loadings is greater than 0.7, it indicates that the model possessed convergent validity and discriminate validity. The study shows that total scale and all subscales of the characteristics of the KMO values are greater than 0.6; the variance contribution rate is greater than 0.7; the evaluation index of the factor loadings were greater than 0.7 and the vast majority is grater than 0.8. All these figures indicate that factors on the interpretation of the variance are relatively high and the structure of each subscale validity is relatively high. Therefore the questionnaire is significant.

- Fitting test. The model fitting evaluation is to verify the theoretical model by fitting the parameters. In this study, AMOS7.0 was used to evaluate the model parameters and obtain the indicators. According to the previous research(by Wen Zhonglin, 2004; Meng Qingmao, Hou Jietai, 2001), the general standard for judging as follows: (1) When CMIN / DF <3, it means the model is good. (2) When CFI > 0.95, it means the model is good, and when CFI > 0.9o, it means the model is acceptable. (3) When both RMR and RMSEA< 0.05, it indicates that the model fit well, and when both RMR and RMSEA<0.08, it means the model is acceptable; (4) Both GFI and AGFI are required to be larger than 0.85. The figures in the study show that the design of the model is reasonable.

3.3 Example

An example is given to prove the model. The figures are on the marketing ethics. The used software was AMOS7.0. The internal relationship will be easily found with the help of those paths showed in Figure Ⅱ. The example proved the model was scientific.

4. Conclusion

The marketing ethics indicator systems and models introduced in this paper are reliable and valid. The researches in this paper will improve and enrich the theoretical systems and methods of the evaluation of marketing ethics. In practice, these researches will help to carry out marketing ethics evaluation and benefit to the management of marketing ethics.

5. Acknowledgment

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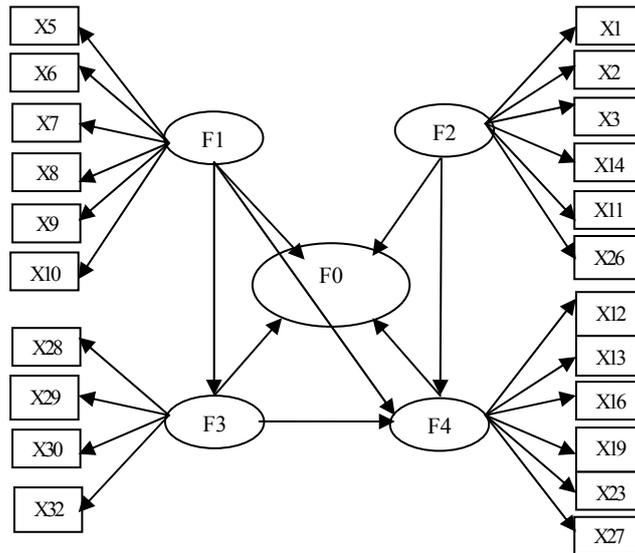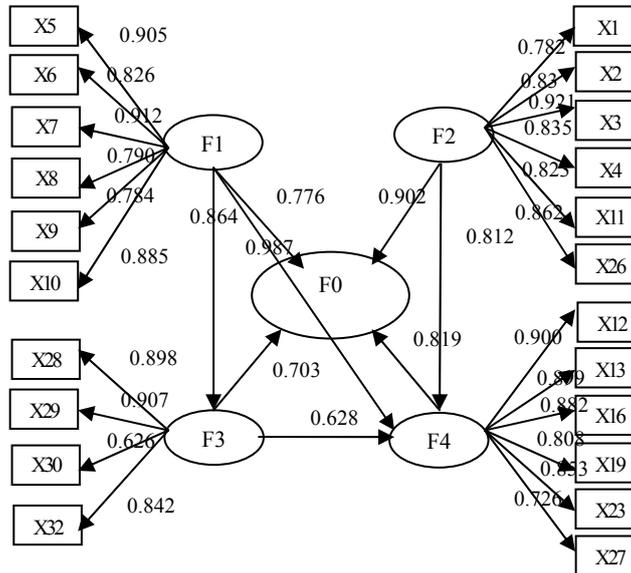
Fig 1. Marketing ethics evaluation model

Fig 2. Path coefficient of marketing ethics model