A Study of Corporate Reputation's Influence on Customer Loyalty Based on PLS-SEM Model

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Abstract

In this paper, a comprehensive corporate reputation measurement and explanation model suggested by Schwaiger was briefly introduced in the first part. Since the model's applicability in China has been proved in former work, using structural equation modeling (SEM) and partial least squares (PLS) statistical methods and taking advantage of first-hand data, the impact of corporate reputation on customer loyalty was empirically studied in the second part of this paper. Statistical results indicate that the affective component (Likeability) of corporate reputation exerts greater and more significant influence on the establishment of customer loyalty than the cognitive component (competency) does. Furthermore, performance and corporate social responsibility (CSR) were identified to be the most two important drivers in influencing corporate reputation and also in driving customer loyalty.

Keywords: Corporate Reputation, Customer Loyalty, Structural Equation Modeling, Partial Least Squares (PLS), JEL Classification: M31, M10; M14

As one of the valuable corporate intangible assets, corporate reputation has received unprecedented attention from both academics and business community. However, a piece of successful experience in corporate reputation management in one country or area could hardly been replicated in another place due to its culture and environment-dependent characteristic, thus good corporate reputation is of great importance in corporate core competence.

Corporate behaviors and corporate social responsibilities has been always the central point of corporate reputation. Therefore if corporate reputation exerts impact on customer loyalty and if yes, what is the interaction mechanism between them has been an interesting and meaningful research topic. Some scholars think that on one hand good corporate reputation benefit the company from attracting potential customers, saving the time for establishing business relationship with customers, reducing the transaction cost and create premium revenue; on the other hand good corporate reputation could promote the sales of new production and help developing new markets. Excellent corporate reputation could save the cost of establishing trust with new customers and help improve transaction efficiency (Xu jinfa, 2005).

With improving environment of market economy, consumers could get more information about the company and product in increasing ways, which consequently result in more and more critical purchasing behavior. Under this situation, how to attract customers and further establish customer loyalty has been an ever-fierce competition. During the competition of attracting more customers, more and more companies have paid increasing attention to the deep mining of corporate intangible assets rather than to the traditional sales promotion parameters, such as price, function, product packing, etc. Some current academic studies have shown that customers pay more attention to the ethical aspects of the company, for example: environment protection, corporate social responsibility and corporate behaviors (Larsen, J. T et al., 2001).

Trust is an indispensable part of corporate reputation (Davis Young, 1997) and is also an important prerequisite for the formation of customer loyalty. [4] Empirical researches have indicated that good corporate reputation could reinforce customers' trust in corporate and product and finally promote customer repurchase (Nha Nguyen/Gaston Leblanc, 2001). Though the positive impact of corporate reputation on customer loyalty has been universally accepted, the functional mechanism and mutual interaction between them have not been deeply studied. How to take advantage of this valuable intangible asset to reinforce customer loyalty needs further empirical research.

In 2002, Schwaiger (Manfred Schwaiger, 2004) put forward a new measurement and explanation model of corporate reputation by considering corporate reputation as a combination of affective component and cognitive component. The estimation results of this empirical research have shown a good fitness of this model within Western cultures (Schwaiger, 2004), which trigger us to expand this model to the eastern country. In this paper, taking advantage of Schwaiger's model, we empirically studied the influence of corporate reputation on customer loyalty and found out

which driving factors exert the most important and significant influence, consequently providing practical guide and drawing meaningful implications for corporate reputation management task.

1. Measurement and explanation of corporate reputation

As one of the indispensable part of corporate core competency, the importance of corporate reputation has been accepted with any doubt. However, scholars and practitioners have failed to reach a consensus on how to define and measure corporate reputation. In previous paper (Fombrun, C. / C. Van Riel, 1997; Deephouse, 2000; Shenkar, O. /E. Yuchtman-Yarr, 1997; Fombrun, 1996; Lewis, 2001; Wartick, 2002), we have comprehensively and critically reviewed present definition and measurement method of corporate reputation, for the sake of brevity; we don't provide relevant literature review in this paper.

Making a comprehensive survey of available measurement method, we can find that most of these methods concentrate on the cognitive aspect of corporate reputation, no matter fortune's "Most respectable companies…" or the "Reputation quotient" (RQ). Questionnaire with details of these measurement have been opened to public, however, the aspects these measurements focus on reflect their concentration on cognitive factors. But if we probe corporate reputation in a deep way, we can see the different group of stakeholders understand corporate reputation in different ways. Customer's evaluation of corporate reputation towards a company not only involves cognitive judgment of the company, but also includes affective feelings to the company, which indicates the deficiency of current measurement method.

Based on attitude theory, Schwaiger put forward a new corporate reputation measurement and explanation model by considering corporate reputation as the combination of cognitive and affective components. After literature review, expert interviews and focus group discussion, eighteen items were selected to explain corporate reputation and six items were assigned to evaluate both the affective as well as the cognitive component (see Table 1). The model development was in line with Rossiter's C-OAR-SE procedure (Rossiter 2002). By principle component analysis of eighteen explanative items, four driving factors were extracted and they are: quality, performance, corporate social responsibility (CSR) and attractiveness.

Insert Table 1 Here

2. Empirical Research

2.1 Data Collection

In March 2008, face-to-face interviews were conducted at ten places in China including both urban areas and rural areas. A seven-point rating scale was used in the personal-interviews. The questionnaire (see Table 1) was administered to 100 respondents at each place, which led to a total of 1,000 respondents' evaluation on the four companies mentioned above.

After ruling out 21 questionnaires which failed to provide complete information, we applied an optimization algorithm in order to draw a sub sample almost perfectly matching sociodemographic means from the sample and the corresponding means in the Chinese population. This resulted in a quasi-representative database of the Chinese population containing 302 respondents' questionnaires. By restructuring the original data, we finally got a sample of 1,208 company evaluations.

Before asking the respondents to evaluate, two questions "Are you involved in household decisions?" and "Do you know the companies BMW, Siemens, Haier Group and China Mobile at least by name?" were asked to make sure that our respondents were qualified to evaluate these companies. The questionnaire was administered to 100 respondents at each place, which led to a total of 1,000 respondents' evaluation on the four companies mentioned above.

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2.2 Principal Component Analysis

Table 2 indicates that the concept to split corporate reputation into an affective and a competence component still works in Chinese context, where the affective component explain 38.9% of the original information and the cognitive component explains 34.8%. Table 3 shows that again we can extract the four factors quality, performance, responsibility and attractiveness from the 18 explanatory items explaining 65% of the original information.

Insert Table 2 Here

The statistical results in last section shows the applicability of considering corporate reputation as a two-dimension construct in China. Four driving factors were extracted again with China data. Then structural equation modeling with partial least squares would be used to analyze how corporate reputation affects customer loyalty and which driving factors play the most important role.

3. PLS Estimation Results with smartPLS

Since our focus is placed on the explanation of an endogenous construct, variance-based methods like Partial Least Square (PLS) analysis are preferred. Another reason to adopt this approach is that PLS can deal with both formative and reflective construct, which we exactly demand in our case. Contrary to covariance-based structural equation models, which attempt to reproduce the observed covariance matrix using a maximum-likelihood function, PLS understands the latent variable as weighted sums of their respective indicators (Chin/Newsted 1999; Fornell/Cha 1994) and attempts to predict values for the latent variables (component scores) using multiple regressions (Chin 1998b; Chin/Newsted 1999; Fornell/Bookstein 1982; Fornell/Cha 1994).

PLS-model estimation was performed using SmartPLS. As the item scales are comparable, a standardization of the data is not necessary, so that model estimation was performed using the original data (Chatelin et al. 2002). To test whether path coefficients differ significantly from zero, t-values were calculated using bootstrapping procedure (Chartelin et al., 2002; Chin 1998b). Contrary to the default of 100 cases and 100 samples in SmartPLS, we calculated with 1208 cases and 500 samples to get more stable results. Since William Gould and Jeff Pitblado (2005) suggested to choose a sample size of the Bootstrapping procedure which is equal to the number of cases in the original dataset, because the standard error estimates are dependent upon the number of observations in each replication. The final coefficients estimated by smartPLS were shown in three parts (see Table 4, Table 5). All coefficients are presented with t-values given in parentheses.

Insert Table 4 Here

Insert Table 5 Here

In Table 5, the results of the reflective part of the model in Table 4 show that all factor loadings exhibit values of above 0.8 indicating a strong goodness of fit. Composite reliabilities of each component are uniformly higher than 0.8 while the Cronbach's α are located around 0.8, thus meeting stipulated thresholds (Nunnally/Bernstein 1994). To examine the discriminant validity, the Fornell/Larcker (1981) criterion is applied, where the square root of each endogenous construct's average variance extracted (AVE) is compared to its bi-variate correlations with all opposing endogenous constructs (cp. Hulland 1999, Gregoire/Fisher 2006). The result showed that the square root of AVE is greater than the variance shared between likeability and competence. Thus we can presume discriminant validity between the likeability and the competence components. According to the R squared value of customer loyalty construct, we can see the two components of corporate reputation has explain more than half of the information of customer loyalty, which indicates significant influence of corporate reputation on customer loyalty.

Insert Table 6 Here

4. Discussions and Suggestions

Table 6 shows all the path coefficients with corresponding t-values in the parenthesis. The statistical results indicate all the path coefficients are significant except the path from attractiveness to likeability. The path coefficients from likeability and competence to customer loyalty are respectively 0.520 and 0.204 with corresponding t values of 14.170 and 5.738 at the 5% level, which shows significant positive impact of both two components of corporate reputation on customer loyalty. Furthermore, it can be found that likeability exerts more significant impact on customer loyalty rather than company's competence, which tells the CEO what the focus of daily reputation management work is. If a company could invest more on affecting and improving customers' affective feelings towards the company, it would be much easier to establish and reinforce customer loyalty with company.

With further analysis of four driving factors, it can bee seen that the performance factor exhibits most significant influence on positively affecting customer loyalty, since it has the most important driving effect on both likeability and competence. This tells us a big step in improving company's performance could result in a positive achievement on customer's affective feelings towards the company and on customer's cognitive judgment towards the company's competence as well.

Examining other three driving factors, we found the corporate social responsibility (CSR) has the second most significant driving impact on the affective component of corporate reputation. With the rapid economic development, the contradiction between economic development and environment protection has aroused unprecedented attention. When evaluating a company's reputation, customers are apt to put more attention on the responsibility a company takes over rather than on the product price, packing and traditional function. For instance, after Wenchuan earthquake happened, many companies immediately donated money or living materials or food to the stricken area, which is a piece of excellent and appropriate self marketing promotion to the whole society. The donation behavior makes customers identify more with the company and consequently establish firm customer loyalty.

To sum up, good corporate reputation does exert significant positive influence on customer loyalty improvement. By examining and comparing all the path coefficients, it can be seen that performance factor and corporate social

responsibility factor are the most two important driving factors on affecting customer loyalty. Further research is needed to test the stability of these results by industry differentiation.

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Table 1. Constructs and measurement items (Questionnaire)

Construct		Item
Measurement Construct	Likeability	… is a company I would regret more if it didn't exist any more than I would with other companies . … is a company I can identify with better than with other companies I regard … as a likeable company.
	Competence	I believe that … performs at a premium level. As far as I know … is recognized world-wide. … is a top competitor in its market.
Driver Construct	Quality	The products/services offered by … are of high quality. I think that …'s products/services offer good value for money. The services … offers are good. … seems to be a reliable partner for customers. Customer concerns are held in high regards at … In my opinion … tends to be an innovator, rather than an imitator.
	Performance	… is an economically stable company I assess the business risk for … as modest compared to its competitors. I think that … has growth potential. In my opinion … has a clear vision about the future of the company. I think … is a very well managed company.
	Responsibility	I have the feeling that … is not only concerned about profit. I have the impression that … is forthright in giving information to the public … behaves in a socially conscious way. … is concerned about the preservation of the environment. I have the impression that … has a fair attitude towards competitors.
	Attractiveness	I like the physical appearance of … (Company buildings, branch offices). In my opinion … is successful in attracting high-quality employees.

Table 2. Principal component analysis result of six reflective indicators

Item	Component	
	Likeability	Competence
… is a company I would regret more if it didn't exist any more than I would with other companies	0.870	0.213
… is a company I can identify with better than with other companies	0.834	0.300
I regard... as a likeable company	0.770	0.347
… is a top competitor in its market	0.225	0.839
I believe that … performs at a premium level	0.246	0.825
As far as I know … is recognized world-wide	0.422	0.655
Variance explained	38.9%	34.8%
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization		

Table 3. Principal Component Analysis of 19 explanatory items

Item	Factor			
	Quality	Performance	CSR	Attractiveness
... seems to be a reliable partner for customers.	**0.749**			
Customer concerns are held in high regards at....	**0.737**			
The products / services offered by ... are of high quality.	**0.698**			
The services ... offers are good.	**0.693**			
I think that ...'s products / services offer good value for money.	**0.689**			
In my opinion ... tends to be an innovator, rather than an imitator.	**0.648**	0.300		
… is an economically stable company.		**0.770**		
I think that ... has growth potential.		**0.724**		
I assess the business risk for ... as modest compared to its competitors.		**0.670**		
... has a clear vision about the future of the company.	0.303	**0.660**		
... is a very well managed company.	0.415	**0.582**		
I have the feeling that ... is not only concerned about the profit.			**0.842**	
... behaves in a socially conscious way.	0.340	0.308	**0.629**	
I have the impression that ... is forthright in giving information to the public.	0.421		**0.548**	0.330
I have the impression that ... has a fair attitude towards competitors.	0.490		**0.465**	
... is concerned about the preservation of the environment.			**0.465**	0.537
I like the physical appearance of ... (company buildings, branch offices).	0.431			**0.699**
In my opinion ... is successful in attracting high-quality employees.	0.505	0.350		**0.482**
Variance explained	23.8%	17.1%	12.9%	11.2%

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization. Loadings< 0.3 suppressed.

Table 4. PLS estimation of 18 explanative indicators with smart**PLS**

Items	Performance	CSR	Attractiveness	Quality
... is a very well managed company.	0.475 (10.934)			
I think that ... has growth potential.	0.158 (3.652)			
… is an economically stable company.	0.181 (4.381)			
I assess the business risk for ... as modest compared to its competitors.	0.182 (4.920)			
... has a clear vision about the future of the company.	0.239 (6.007)			
I have the impression that … has a fair attitude towards competitors.		0.433 (10.159)		
... behaves in a socially conscious way.		0.307 (6.047)		
I have the feeling that ... is not only concerned about the profit.		0.099 (2.0043)		
I have the impression that ... is forthright in giving information to the public.		0.174 (3.616)		
... is concerned about the preservation of the environment.		0.214 (4.528)		
I like the physical appearance of ... (company buildings, branch offices).			0.534 (12.568)	
In my opinion ... is successful in attracting high-quality employees.			0.596 (14.701)	
The products / services offered by ... are of high quality.				0.298 (5.464)
I think that ...'s products / services offer good value for money.				0.187 (3.558)
The services ... offers are good				0.150 (2.743)
... seems to be a reliable partner for customers.				0.180 (3.674)
Customer concerns are held in high regards at....				0.127 (2.450)
In my opinion ... tends to be an innovator, rather than an imitator.				0.271 (5.587)

Table 5. PLS estimation of three endogenous construct with t values in parenthesis

	Likeability	Competence	Customer Loyalty
… is a company I would regret more if it didn't exist any more than I would with other companies	0.876 (90.304)		
… is a company I can identify with better than with other companies	0.892 (90.716)		
I regard... as a likeable company	0.860 (82.317)		
I believe that … performs at a premium level		0.838 (67.033)	
As far as I know … is recognized world-wide		0.811 (48.740)	
… is a top competitor in its market		0.845 (66.028)	
If I had the chance, I would choose …. Company again.			0.872 (83.347)
I would recommend … company to my friends.			0.891 (100.017)
I consider myself as a long-term loyal customer of …. Company.			0.839 (60.938)
R squared	0.5934	0.5317	0.534
Composite Reliability	0.908	0.870	0.861
Communality	0.768	0.691	0.752
AVE	0.7677	0.6916	0.752
Cronbach's α	0.8487	0.7768	0.836
Correlation between latent variables	0.5885	0.5885	/

Table 6. PLS estimated path coefficients with t-value in parenthesis

	Path Coefficients	T-values
Quality -> Competence	0.151	3.279
Quality -> Likeability	0.184	4.196
Attractiveness -> Competence	0.122	3.119
Attractiveness -> Likeability	0.037	0.968
Performance -> Competence	0.433	10.018
Performance -> Likeability	0.387	9.948
CSR -> Competence	0.084	2.125
CSR -> Likeability	0.262	6.525
Competence -> Customer Loyalty	0.204	5.738
Likeability -> Customer Loyalty	0.520	14.170