An investigation of the role of brand image on consumer loyalty

Fatemeh Izadi Manesh and Somayeh Hozouri*

Department of Management, Islamic Azad University, South Tehran Branch, Tehran, Iran

C H R O N I C L E	A B S T R A C T
	This paper presents an investigation on the role of brand image on customer loyalty on rubber industry. The proposed study designs a questionnaire in Likert scale consists of 27 questions, distributes it among some Iranian experts in rubber industry and analyzes it based on principal component analysis. During the survey, the number questions are reduced to 23. Cronbach alpha is calculated as 0.812 and Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Approx. Chi-Square are 0.671 and 2375, respectively. Based on the results of our survey, we have derived six factors including penetration strategy, infrastructure characteristics, competitive pricing, target marketing strategy, communication strategy and market characteristics.

1. Introduction

Brand is one of the most important factors for building trust among customers and rubber industry is one of them (Franco, 1990; Aaker, 2010; Leuthesser et al., 2011; Hsieh & Li, 2011). During the past few years, there has been a high competition in rubber industry, which has reduced profit margin in this industry and only efficient and well known rubber producers could survive (Stigler, 1961; Stiglitz & Weiss 1981). Therefore, there is a necessity to investigate brand characteristics and detect how to form a good brand in such competitive market and there are literally many studies associated with how to build brand. Erdem and Swait (1998, 2004), for instance, studied the impact of brand credibility, trustworthiness and expertise, on brand choice and consideration across multiple product categories. They reported that brand credibility could increase probability of inclusion of a brand in the consideration set. Brands may affect various stages of consumer choice processes, and hence, various components of consumer utility functions. Previous conceptual and empirical work focused on the effects of brands on consumer perceptions of tangible and intangible product attributes. Erdem

 *Corresponding author.
E-mail address: saho84@rocketmail.com (S. Hozouri)

et al. (2002) extended the work on brand effects with information economics to find out whether consumer price sensitivity could influence overall attractiveness or utility. They investigated how the impact of product price on consumer utility was moderated by brand credibility. To explore the impact of brand credibility on consumer price sensitivity across categories that could involve different levels of consumer uncertainty, they applied the analysis for four products including frozen concentrate juice, jeans, shampoo and personal computers. These categories varied in the degree of potential consumer uncertainty about product attributes, as well as in a number of other category-specific features, which could impact consumer sensitivity to uncertainty. They reported that brand credibility could decrease price sensitivity and although the direction of the effect was the same, the magnitude of brand credibility's impact on consumer choices and price sensitivity could be different across product categories, as a function of product category characteristics, which impact potential consumer uncertainty and consumer sensitivity to such uncertainty.

Sweeney and Swait (2008) studied the important additional impact of the brand in managing the churn of current customers of relational services. They tried to find out whether the credibility of the brand could underlay the effect that the brand could play in this process. In their survey, brand maintained a substantial role on managing long-term customer relationships, and reported how the usual tools of customer relationship management, satisfaction and service quality influenced brand credibility. Berry (2000) presented a service-branding model and stated that branding was not just for tangible goods and it could be considered as a principal success driver for service organizations as well. Gilliland and Bello (2002) studied two sides to attitudinal commitment including the impact of calculative and loyalty commitment on enforcement mechanisms in distribution channels. Wray et al. (1994) presented a neural network with two outcome components of relationship quality, relationship satisfaction and trust, and five input antecedents including the salesperson's sales orientation, customer orientation, expertise, ethics and the relationship's duration. Harris and Goode (2004) studied online service dynamics on four levels of loyalty and the pivotal role of trust.

2. The proposed study

This paper presents an investigation on the role of brand image on customer loyalty on rubber industry. The proposed study designs a questionnaire in Likert scale consists of 27 questions, distributes it among some Iranian experts in rubber industry and analyzes it based on principal component analysis. Cronbach alpha is calculated as 0.812. In addition, Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Approx. Chi-Square are 0.671 and 2375, respectively. Since the proposed study of this paper uses principal component analysis and the method is sensitive to skewness of the data we have carefully monitored the data and removed four questions leaving it to have 23 questions. Table 1 summarizes the results of our survey on communalities. Fig. 1 demonstrates the results of Scree plot.
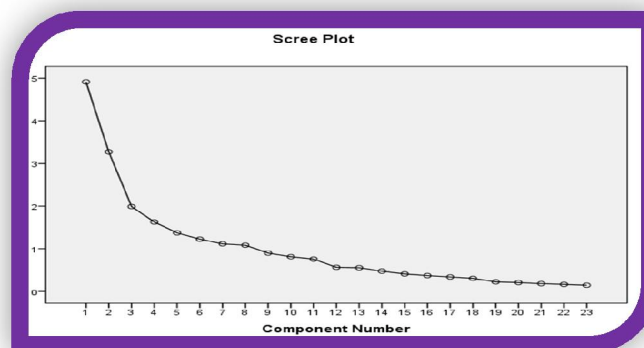

Fig. 1. The summary of Scree plot

As we can observe from the results of Fig. 1, there are six factors, which could be extracted for further studies. In addition, as we can observe from the results of communalities given in Table 1, most factors are well above the minimum acceptable level of 0.5. Table 2 demonstrates the results of factor analysis on these factors.

Table 1
The summary of communalities

	Communalities	
	Initial	Extraction
VAR00005	1.000	.776
VAR00006	1.000	.800
VAR00010	1.000	.713
VAR00012	1.000	.708
VAR00013	1.000	.620
VAR00014	1.000	.659
VAR00015	1.000	.779
VAR00016	1.000	.685
VAR00017	1.000	.680
VAR00019	1.000	.699
VAR00020	1.000	.728
VAR00021	1.000	.813
VAR00022	1.000	.713
VAR00024	1.000	.840
VAR00025	1.000	.780
VAR00026	1.000	.691
VAR00007	1.000	.788
VAR00018	1.000	.821
VAR00027	1.000	.697
VAR00001	1.000	.793
VAR00002	1.000	.706
VAR00003	1.000	.638
VAR00004	1.000	.472

Table 2
The summary of principal component analysis after rotation

							Total Variance Explained		
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.915	21.368	21.368	4.915	21.368	21.368	2.913	12.665	12.665
2	3.273	14.229	35.598	3.273	14.229	35.598	2.536	11.027	23.692
3	1.989	8.648	44.245	1.989	8.648	44.245	2.451	10.656	34.348
4	1.628	7.077	51.322	1.628	7.077	51.322	2.219	9.649	43.997
5	1.373	5.969	57.291	1.373	5.969	57.291	2.120	9.218	53.214
6	1.224	5.322	62.613	1.224	5.322	62.613	1.556	6.766	59.981
7	1.116	4.850	67.463	1.116	4.850	67.463	1.434	6.236	66.216
8	1.083	4.710	72.173	1.083	4.710	72.173	1.370	5.956	72.173
9	.899	3.908	76.081						
10	.813	3.534	79.615						
11	.757	3.290	82.905						
12	.564	2.451	85.356						
13	.553	2.406	87.762						
14	.474	2.063	89.825						
15	.409	1.780	91.604						
16	.370	1.607	93.211						
17	.337	1.467	94.678						
18	.304	1.322	96.000						
19	.223	.970	96.969						
20	.207	.901	97.870						
21	.182	.791	98.661						
22	.164	.713	99.374						
23	.144	.626	100.000						

Based on the results of our survey, we have derived six factors including penetrating strategy, infrastructures, competitive pricing, targeting appropriate market, communication strategy and crystal clear characteristics.

3. The results

In this section, we present details of our findings on six influencing factors.

3.1. The first factor: Penetrating strategy

The first factor is associated with penetrating strategy. Table 3 demonstrates details of our survey. As we can observe from the results of Table 3, "Social values" is the most important factor, followed by improvement on consumer's perception, consumer's expectation from a product and consumer preferences.

Table 3
The summary of factors associated with penetrating strategy

Option	Factor weight	Eigenvalues	% of variance	Accumulated
Improvement on consumer's perception	.798			
Social values	.803	2.433	48.657	48.657
Consumer's expectation from a product	.684			
Interpersonal communication effects	.563			
Consumer preferences	.605			

Cronbach alpha =0.724

3.2. The second factor: Infrastructures

Infrastructure is the second important factor and it includes four factors, which are summarized in Table 4 as follows,

Table 4
The summary of factors associated with infrastructure

Option	Factor weight	eigenvalues	% of variance	Accumulated
Rules and regulations	.830	2.226	55.643	55.643
Environment issues	.689			
Government support	.692			
Nano technology	.724			

Cronbach alpha =0.732

According to the results of Table 4, "Rules and regulations" is number one priority followed by "Government support", "Environment issues" and "Nano technology".

3.3. The third factor: Competitive pricing

Competitive pricing is another important factor with three items summarized in Table 5.

Table 5
The summary of factors associated with competitive pricing

Option	Factor weight	eigenvalues	% of variance	Accumulated
Pricing strategy	.752			
Product characteristics	.801			
Replacement products	.881	1.984	66.122	66.122

Cronbach alpha =0.738

According to the results of Table 5, "replacement products" is the most important component in organizational assessment followed by "product characteristics" and "pricing strategy".

3.4. The fourth factor: Targeting appropriate market

Targeting appropriate market is another important factor with three items summarized in Table 6. According to the results of Table 6, "Knowledge management" is the most important component in organizational assessment followed by "Customer oriented organization culture", "Having a unified instruction" and "Outsourcing mechanisms".

Table 6
The summary of factors associated with targeting appropriate market

Option	Factor weight	eigenvalues	% of variance	Accumulated
Marketing strategy	.830	1.853	61.781	61.781
Penetrating new markets	.785			
Investigation on market change	.741			

Cronbach alpha =0.55

3.5. The fifth factor: Communication strategy

Communication strategy is another important factor with three items summarized in Table 7. According to the results of Table 7, "Creating trust among customers" is the most important component in organizational development followed by "Customer trust to brand", and "Communication with customers".

Table 7
The summary of factors associated with organizational development

Option	Factor weight	eigenvalues	% of variance	Accumulated
Customer trust to brand	.802			
Communication with customers	.756			
Creating trust among customers	.813	1.877	62.551	62.551

Cronbach alpha =0.66

3.6. The sixth factor: Crystal clear characteristics

Crystal clear characteristics are the last important factors with two items summarized in Table 8. According to the results of Table 8, "Exclusive product characteristics" is the most important item followed by "Distinguished brand".

Table 8
The summary of factors associated with Intelligence data strategies

Option	Factor weight	eigenvalues	% of variance	Accumulated
Distinguished brand	.796			
Exclusive product characteristics	.796	1.269	63.427	63.427

Cronbach alpha =0.421

3. Conclusion

This paper has presented an investigation on the role of brand image on customer loyalty on rubber industry. The study was performed among some Iranian experts in rubber industry and the study has determined six factors including penetration strategy, infrastructure characteristics, competitive pricing, target marketing strategy, communication strategy and market characteristics. In terms of

penetrating strategy, "Social values" has detected as the most important factor, followed by improvement on consumer's perception, consumer's expectation from a product and consumer preferences. Infrastructure was the second factor in our study where "Rules and regulations" was number one priority followed by "Government support", "Environment issues" and "Nano technology". Competitive strategy was another important factor where "replacement products" was the most important component in organizational assessment followed by "product characteristics" and "pricing strategy". Targeting appropriate market was another important factor with three items where "Knowledge management" was the most important component in organizational assessment followed by "Customer oriented organization culture", "Having a unified instruction" and "Outsourcing mechanisms". Communication strategy is another important factor with three items where "Creating trust among customers" was the most important component in organizational development followed by "Customer trust to brand", and "Communication with customers". Finally, Crystal clear characteristics are the last important factors with two items where "Exclusive product characteristics" is the most important item followed by "Distinguished brand".

Acknowledgment

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