

Quantification of the Brand Effect of Service Sector on Internal Employee Retention

Kuo-Yan Wang, Jing Yu, Chia-Yang Ning*

School of Economics and Management, Guangdong University of Petrochemical Technology, Maoming, China

**Corresponding author. Email: 1702977329@qq.com*

ABSTRACT

The brand plays a significant role and influence on the internal operating environment of service-oriented enterprises. Employees' awareness of brand information can form a self-dissemination phenomenon, which is very important for companies to promote internal marketing smoothly and enhance retention rates. However, in evaluating brand equity, the recognition of brand information by service industry employees is rarely mentioned because it is difficult to quantify. This study successfully solved the above problems and put forward relevant suggestions for reference in follow-up research.

Keywords: *Brand information, Internal marketing, Service sector, Employee retention.*

1. INTRODUCTION

The brand is an influencing factor and tool of corporate marketing and consumer behavior and has a significant effect on the internal operation and management of the enterprise. However, it is often overlooked in the practice of brand equity evaluation. The main reason is that the brand value is difficult to estimate accurately, and it is often regarded as one of the corporate cultures in internal management.

One of the most critical roles that the brand plays in the internal management of the enterprise is to increase the retention rate of employees, especially for service-oriented enterprises [1-4]. Similarly, employees' cognition and reputation of brand information within an enterprise can form a phenomenon of word-of-mouth transmission, affecting the brand's voice. In other words, the brand's internal influence can be reflected in its employees.

However, the impact of corporate share of voice on internal employees is difficult to estimate [5-8]. Scholars also highlight the importance of building employee-to-employee and employee-to-employer relationships by virtual means in the context of employer branding [9-11]. Therefore, the importance of developing internal branding along with brand orientation and strategic brand management is highlighted for marketing practitioners [12-14]. Branding is important not only for the organization, but also for individual departments [15-16].

A fundamental question is how an efficient and successful brand process can be supported by the willingness of service personnel to promote the brand spontaneously by its complex nature and environment. To answer this question, this paper explores the perspectives of employees. For this reason, this research will focus on the relationship between the service employee's contract expiration rate and brand voice information and present it through mathematical modelling, and to precisely measure a service industry brand with theoretical value and practical significance.

2. MODEL DEFINITION

In obtaining brand information, employees within the company will show their brand awareness and trust in the company due to brand reputation. The employee's cognition and understanding of the brand can be expressed by C_0 , which includes the employee's awareness of brand information and the degree of comprehension. The employee retention rate is equivalent to the consumer repurchase rate in the company's external marketing, and R can be denoted as a coefficient of the average brand price.

2.1. Internal Employees' Awareness and Recognition Increment of the Brand Information

Like measures consumers' brand awareness, firms can also obtain brand information by conducting

questionnaires to investigate whether employees know the corporate brand's primary services and characteristics. Eq. 1 reveals the internal effective information volume of a certain brand in the service sector.

$$I_{R0} = E_N K_0 H(x) \tag{1}$$

where I_{R0} is the increment of brand information acquired by internal employees for brand awareness. K_0 is internal employees' awareness of the brand. E_N is the total number of internal employees. $H(x)$ is the amount of information on whether an internal employee recognizes the company's brand.

Next, after calculating the internal employees' awareness of the brand, we can find the information increment of all internal employees' understanding of the brand, as Equation (2) shows.

$$I_{Z0} = (C_{max0} - 1) R_{R0} K_0 E_N \tag{2}$$

where I_{Z0} is the increment of brand information acquired by internal employees for brand recognition. C_{max0} is an employee fully knows the maximum amount of brand information that a brand wants to disseminate. R_{R0} is the internal employee recognize of the brand. K_0 is internal employees' awareness of the brand. E_N is the total number of internal employees.

The increase in the basic amount of brand information by internal employees is composed by the two parts: First is the increment of brand information acquired by internal employees for brand awareness (I_{R0}), and the increment of brand information acquired by internal employees for brand recognition (I_{Z0}), that is

$$I_0 = I_{Z0} + I_{R0} \tag{3}$$

It can be further expressed as

$$I_0 = E_N K_0 + (C_{max0} - 1) R_{R0} K_0 E_N \tag{4}$$

2.2. The effect of internal employee retention rate on brand information

The retention rate of a brand to a service-oriented company can be measured by the amount of brand information dissemination carried out by employees. Set t_2 is the service staff retention, we can obtain Eg. 5 as follows

$$t_2 = \frac{x_2}{S_1} \tag{5}$$

where t_2 is the ratio of employees wish to actively promote the brand. x_2 is the number of employees able to carry out brand communication. S_1 is the total number of firm's staff.

The scale of brand information and internal employees' influence is also affected by the average level of the company in the entire industry, therefore

$$\beta_2 = \frac{S_1}{\bar{S}} \tag{6}$$

where β_2 is the relative size of the company within the industry. S_1 is the number of employees of the brand in the company. \bar{S} is the average number of employees in the industry.

The effect of brand on employee retention can be represented by N . It is related to the employee's self-propagation ratio of the brand and the relative size of the company. The relationship between the two variables shows an exponential relationship, as shown in the following Equation (7).

$$N = \beta_2^{a1} \tag{7}$$

Further, we can express as

$$N = \left(\frac{E_1}{\bar{E}} \right)^{\frac{x_2}{E_1}} \tag{8}$$

Where N is the adjustment coefficient of brand unit price. So, the unit price of a brand can be denoted as

$$P = N \bar{P} = \beta_2^{a^2} \bar{P} = \left(\frac{E_1}{\bar{E}} \right)^{\frac{x_2}{E_1}} \bar{P} \tag{9}$$

3. BRAND INFORMATION MEASUREMENT BASED ON INTERNAL EMPLOYEE FACTORS

The method of measuring the amount of brand information (Q_E) with internal employees as a variable is shown below.

$$Q_E = \left[\frac{1}{N(E) - R} \right]^t \left\{ [EK + (1 + \varepsilon)^{1+y_1} \bar{C}K E] \times N_Z^{\frac{a_1 - \bar{a}}{\bar{a}}} + [E_N K_0 + (L_{max0} - 1) L_{R0} K_0 E_N] \left(\frac{E_1}{\bar{E}} \right)^{\frac{x_2}{E_1}} \right\} \tag{10}$$

$$Q_E = T \left[N \left(\frac{x}{E_x} - \eta \frac{y}{E_y}, \frac{\bar{t}}{t_i} \right) - F \left(a, \frac{1}{b} \right) \right] \times \left\{ [EK + (1 + \varepsilon)^{1+y_1} (C_{max} - 1) \bar{C}K E] N_Z^{\frac{a_1 - \bar{a}}{\bar{a}}} + [E_N K_0 + (L_{max0} - 1) L_{R0} K_0 E_N] \left(\frac{E_1}{\bar{E}} \right)^{\frac{x_2}{E_1}} \right\} \tag{11}$$

$$Q_E = \left[\frac{1}{N(E) - R} \right]^t \left\{ \left[EK + \frac{4}{\Pi} [\arctan(y_1 - 1)] (C_{\max} - 1) \bar{C} K E \right] N_Z^{\frac{a_1 - \bar{a}}{\bar{a}}} + [E_N K_0 + (L_{\max 0} - 1) L_{R0} K_0 E_N] \left(\frac{E_1}{\bar{E}} \right)^{\frac{x_2}{E_1}} \right\} \quad (12)$$

$$Q_E = T \left[N \left(\frac{x}{E_x} - \eta \frac{y}{E_y}, \frac{\bar{t}}{t_i} \right) - F \left(a, \frac{1}{b} \right) \right] \times \left\{ \left[EK + \frac{4}{\Pi} [\arctan(y_1 - 1)] (C_{\max} - 1) \bar{C} K E \right] N_Z^{\frac{a_1 - \bar{a}}{\bar{a}}} [E_N K_0 + (L_{\max 0} - 1) L_{R0} K_0 E_N] \left(\frac{E_1}{\bar{E}} \right)^{\frac{x_2}{E_1}} \right\} \quad (13)$$

$$Q_E = \left[\frac{1}{N(E) - R} \right]^t \left\{ EK + y_2 (C_{\max} - 1) \bar{C} K E \right\} \times N_Z^{\frac{a_1 - \bar{a}}{\bar{a}}} + [E_N K_0 + (L_{\max 0} - 1) L_{R0} K_0 E_N] \left(\frac{E_1}{\bar{E}} \right)^{\frac{x_2}{E_1}} \quad (14)$$

$$Q_E = T \left[N \left(\frac{x}{E_x} - \eta \frac{y}{E_y}, \frac{\bar{t}}{t_i} \right) - F \left(a, \frac{1}{b} \right) \right] \times \left\{ \left[EK + y_2 (C_{\max} - 1) \bar{C} K E \right] N_Z^{\frac{a_1 - \bar{a}}{\bar{a}}} + [E_N K_0 + (L_{\max 0} - 1) L_{R0} K_0 E_N] \left(\frac{E_1}{\bar{E}} \right)^{\frac{x_2}{E_1}} \right\} \quad (15)$$

$$Q_E = \left[\frac{1}{N(E) - R} \right]^t [E + \Delta E] K + (C_{\max} - 1) \bar{C} K E \times N_Z [E_N K_0 + (C_{\max 0} - 1) L_{R0} K_0 E_N] \quad (16)$$

$$Q_E = T \left[N \left(\frac{x}{E_x} - \eta \frac{y}{E_y}, \frac{\bar{t}}{t_i} \right) - F \left(a, \frac{1}{b} \right) \right] \times \left[\frac{1}{N(E) - R} \right]^t [E + \Delta E] K + (C_{\max} - 1) \bar{C} K E \times N_Z [E_N K_0 + (L_{\max 0} - 1) L_{R0} K_0 E_N] \quad (17)$$

where R is employee retention rate, F is the function number of the employee retention rate, and T is timeliness.

4. CONCLUSION

In terms of wider brand management, it can be argued that findings in this study supported a need for some improvement in utilization of brand management attitude towards the employee. We also suggest that traditional brand management approaches may not always be suitable in the current branding context. Rather, staff retention may need to adapt brand and management practices to suit the complex nature of the sector, especially for large, diverse enterprises.

In summary, this work therefore has a number of clear contributions to the literature and practice. In particular understanding of the role of employee retention in branding creation is notable as the work suggests that expectations and understanding of the brand need to be examined to look at positive feelings around a more generic service benefit to society, rather than pursuit of distinctiveness for its own sake. The work therefore contributes across relevant fields of brand architecture and brand management context; it provides a greater understanding of perceptions and results of the internally focused branding efforts.

This article quantifies brand information and successfully solves the problem of accurately quantifying brand understanding by employees in the service industry. However, potential employees' awareness and knowledge of the brand should also be quantified for some of the more indexed large-scale service industry brands. Therefore, the following directions should seek further comprehensive applications in other areas. further studies are needed to explore how, and to what extent, the concept of branding may need adjustment to better suit the nature of the firm branding.

AUTHORS' CONTRIBUTIONS

Chia-Yang Ning conceived of the presented idea. Kuo-Yan Wang and Jing Yu developed the theory and performed the computations. All authors discussed the results and contributed to the final manuscript.

ACKNOWLEDGMENTS

This article is funded by Guangdong University of Petrochemical Technology.

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