Introduction

The Customer-Based Brand Equity, or CBBE Model, suggested by Keller (2001) clearly describes four phases and steps of brand-building, including (1) brand identity, (2) brand meaning, (3) brand response and (4) brand relationship. Furthermore, Keller divided six items of brand-building phase from those four stages so as to compose a brand equity pyramid, expounded in Figure 1 as follows:

Source: Keller (2002), summarized by the researchers

Figure 1 Customer-Based Brand Equity Model (CBBE Model)

Keller (2001) considered that brand holds two dimensions: functions and feelings. Among the 6 items in brand equity pyramid, those to the left belong to functional dimension, while those to the right are relevant to feelings dimension. For instance, the results of brand performance, which is relevant to product function, would influence brand judgments. On the other hand, the results of brand imagery, relevant to product feelings, have an impact on brand feelings. The collective responses of brand judgments and brand feelings would impinge on the resonant relationship between the brand and its consumers, in other words, the establishment of brand resonance.

Brand Equity Factors

For business owners, each brand equity asset could generate values for them; for consumers, brand equity could influence their purchase decisions. C. F. Chen and Chang (2008) research on international airlines in Taiwan showed that if consumers have positive cognitions for brand equity of certain airline, they would like to use the services of that airline again in the future and recommend it to others. Meanwhile, the degree of consumers’ recognition for brand equity of certain enterprises would impose some influences on the enterprise. Therefore, to successfully manage one’s own brand equity, an enterprise must understand the source of its value so as to manage more efficiently. However, the constructive dimension of brand equity and the way to measure it are still under debates between different scholars.

The study reviewed the past studies on brand equity and other brand relevant issues to distinguish 15 most important factors about brand equity to measure the brand values. With reference to Keller (2001)’s brand equity pyramid, these factors were used to compose expert questionnaire to interview with scholars and consultants of marketing and brand related domains. The main research framework of the study is shown in the following Figure 2:
the first step was to determine index value, so as to eliminate those rules that did not reach the index value. If the support and ineffective rules would instead impinge users to discern when there were too many association rules, those nonsense and reliability were set up too low, it still could get more rules. But confidence from 60% to 30% by ranging 10%. Therefore, the study tested minimum support from 30% to 10% and minimum and the average minimum reliability would be 20%~60%. This generally, the average minimum support would be 10%~30%, total number of combinations is 12. The researchers discovered up the minimum support at 10%, and the minimum reliability at 30%, which might be the minimum confidence setting. As the first step must constantly scan data, there will be repeated reorganization of itemsets, support validation, and deletion to produce frequent itemsets. This means the first step is time consuming, and more so than the second step.

Before doing association rule analysis, the user must set two parameters: minimum support and minimum confidence. Because the result must meet these two constraints set by the user, the association rules are meaningful for users. After setting the minimum support and minimum confidence, the user can decide the antecedents and consequents of analysis.

We can set parameters as follows:

\[ X = \text{Antecedent} \]
\[ Y = \text{Consequent} \]

\[ S = \text{Minimum Support: in mathematics, this is expressed as } P(X \cap Y). \text{ It refers to the probability of simultaneous } X \text{ and } Y, \text{ and } S \text{ from 0 to 1. This is usually expressed as a percentage, such as 10%, which might be a setting for the minimum support.} \]

\[ C = \text{Minimum Confidence: in mathematics, this is interpreted as } P(Y|X). \text{ It refers to the probability of the case of itemset } X \text{ existing, and then itemset } Y \text{ existing at the same time. } C \text{ is from 0 to 1, and is usually expressed as a percentage, such as 30%, which might be the minimum confidence setting.} \]

During the process of deleting ineffective association rules, the first step was to determine index value, so as to eliminate those rules that did not reach the index value. If the support and reliability were set up too low, it still could get more rules. But when there were too many association rules, those nonsense and ineffective rules would instead impinge users to discern. Generally, the average minimum support would be 10%~30%, and the average minimum reliability would be 20%~60%. This study tested minimum support from 30% to 10% and minimum confidence from 60% to 30% by ranging 10%. Therefore, the total number of combinations is 12. The researchers discovered 14 rules at the combination of 10% (the minimum support), and 30% (the minimum confidence). The amount of association rules extracted were reasonable and meaningful, including 6 product rules and 8 service rules.

The software used in the study was SPSS Clementine 15.0, while the analytic method was Apriori algorithm. The study set up the minimum support at 10%, and the minimum reliability at 30%, while those didn’t reach the standard index of association rules were deleted. The data used were 169 transaction records from Aug. 2008 to July 2009 provided by Chu-Hsin. The association rules emerged was divided into two types of such rules for the products and services of beauty and hairdressing.

Novella et al. (2001) contends it is acceptable when the reliability value is between 0.5 and 0.7. Also (Nunnally, 1978) suggests that it is acceptable when the Cronbach \( \alpha \) is between 0.5 and 0.6 in pilot studies or understudied topics. (Fang-Ming, 2004) believes it is acceptable when the value of reliability is between 0.5 and 0.7. In our study, the whole reliability of expert questionnaire s 0.648, while the whole reliability of consumer questionnaire comes to 0.653. Both indicate that the reliabilities of the two questionnaires are trustworthy.

The relationship between brand equity factors and brand equity pyramid discussed above doesn’t include brand performance. There are two explanations: first, what brand performance emphasizes is the attributes of products or services related to the brand, i.e. the products or services intended to meet the functional requests among consumers, while the brand equity factors in past studies are more abstract and difficult to measure the functional request concretely. Second, when the expert questionnaire in the study didn’t describe the object as a company or indicates its category, which makes it difficult for experts to recall any factors of functional level in their answers, resulting into the non-correspondent measure factor of brand equity to brand performance. In the following Figure 3, the six items of brand equity pyramid and the 15 brand equity factors are portrayed.

![Brand Equity Pyramid](image)

**Figure 3 Correspondent of Brand Equity Pyramid Items and Brand Equity Factors**

Keller (2001) mentioned that in building a brand ladder, sequent steps should be followed. If the first stage isn’t finished, then, one cannot proceed to the next step. Therefore, the first step in brand development, known as “brand salience,” is very imperative. In the scenario of Chu-Hsin’s first stage of brand development, our evaluation of total correspondent volume of association rules shows that the foundation is not solid enough. From the results of our expert questionnaire, our research team suggests Chu-Hsin to improve brand equity factors, including “brand depth,” “perceived quality” and “brand awareness.” Both brand depth and brand awareness could improve the brand recognition of consumers, while perceived quality is related to consumers’ subjective perception of quality.

As to brand depth and brand awareness, at present, Chu-Hsin has coined a imag of consistent quality and stability through centralization of no more than a few suppliers of its hairdressing products. That said, as the consumptions of beauty and hairdressing takes place inside the salon, an investigation of the environment and creation of comfortable consumptive experiences could impose a positive image on consumers in terms of promoting perceived quality. And brand identity could be promoted by marketing and propaganda tactics (such as
advertisement and merchandising) to improve brand recognition by consumers.

It is recommended to emphasize both brand functional level (i.e., rational route) and emotional level (i.e., emotional route) of brand development.

As mentioned earlier, the left side of pyramid represents a rational route that focuses on rationality, cost management and transaction. The right side of pyramid is emotional route that focuses on consumers’ feelings for a brand, like royalty and preference. Brand-building should be conducted step by step, and when moving into the third stage, the routes are divided into the functional level (rational route) on the left side of brand equity pyramid and the emotional level (emotional route) on the right side. Theoretically, a brand developer could choose either route to successfully achieve the final goal of “brand resonance,” but most of the strong brands would manage to emphasise on both rational and emotional routes.

Therefore, it is recommended that should embark on building brand imagery and brand feelings of the emotional route at present. As to the part of brand imagery, could search for certain vocabularies to connect to the brand name, such as “stable,” “familiar,” “customary,” “assurance” and so on, so as to make customers recall Chu-Hsin whenever they think of such vocabularies. Besides, many in the major consumer group are those at the age of 51 or above; if they could share about positive consumptive experiences, this could create shared memories between the brand and customers. Brand feelings could be achieved by combining consumers’ feelings with brands in accordance with consumers’ self-concept. Suppose during the stage of building brand feelings, has been able to make consumers recall from the vocabularies of familiar and assurance, then, it could further integrate all those concepts of familiarity and assurance with customers’ consumptive experiences so as to deepen consumers perceptions. After a customer visit the salon for a few times, the staff should be able to greet the customer by his or her name and understand the preference of products in the service process.

Conclusion

It is necessary to understand the market environment to determine how to build a relationship between consumers and the brand in addition to satisfy consumers’ demands for products. A successful company also needs to convey the brand message by way of various marketing activities with time. Keller (2001) considered that no shortcut should be taken to brand building, since a great brand isn’t born by accident. Instead, it requires a number of steps to connect the brand to consumers. This study combined brand tools and data mining tools to help enterprise investigate their brand image understand the status quo of their brand development and plan the next stage of brand development using the rules generated from consumer behavior in accordance with tools of brand development. The purpose was to provide enterprises a recommendation for brand development strategies and directions.

There are two suggestions for future studies: First, future researchers could expand the internal business questionnaire for internal staff, to find the views of employee with regard to the development of brand status. A comparison of the results of internal business questionnaire with the results of the consumer questionnaire could help the owner understand the differences between their own perceptions and the consumer’s conceptions.

Second, the results and methodology of the study could be compared with studies of brand ladder for other companies of different scope or those in other industry category: This study’s consumer questionnaire is based on daily transaction data and the results of the association rule analysis. However, the transaction data is not limited to the beauty and hairdressing industry. One could also choose a different industry to study the differences in brand strategies and the problems at each stage of brand development.

Reference


