Measuring Customer Based Brand Equity using Hierarchical Bayes Methodology

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Abstract

In this paper, we propose a method to measure brand equity in a product category at the individual level that allows managers to parcel out brand equity into its respective components and estimate the relative importance of these components. The monetary equivalent value for each of the sub-components of brand equity is calculated. Two new measures for evaluating the long-term health of a brand are also proposed. A nested design based on conjoint methodology, coupled with a hierarchical linear Bayes model, is used to estimate brand equity. The methodology is applied to the Television category and its applicability to managerial decision-making is shown.

Keywords: Branding, Research Methods, Conjoint Analysis, Hierarchical Bayesian Methodology

1. Introduction

In recent times, the area of branding and brand equity has received considerable attention (Aaker 1991, Yoo et al., 2000). The resurgence of research in this area can be attributed to the constantly changing external environment in which we find ourselves (Shocker et al., 1994). The challenges of the marketplace, such as rapid technological innovation, globalization of markets, and the growth of retail power, have led managers to review their current management practices, and hence, have immensely increased the importance of understanding and measuring various sources of brand equity.

Though there are numerous definitions of brand equity, for instance Aaker (1991) and Keller (2003), consistent with Aaker (1991) we define it as a set of assets, namely brand associations, brand awareness, brand loyalty, perceived quality and organizational associations that add or subtract value from a product or service. Hence, brand equity assets can help consumers to interpret, process and store information as well as affect their confidence in the purchase decision. Throughout this article these assets have been referred to as the sub-components of brand equity.

There have been two important motivations for measuring brand equity: financial and managerial. In an era of numerous mergers and acquisitions, financial measures of brand equity help investors determine the value of a brand or a company (Simon and Sullivan, 1993). Unfortunately, a notable limitation of financial measures that are often used for accounting purposes is that they provide little or no guidance to managers in implementing and evaluating strategies that help build brand equity. Contrary to this, customer based measures of brand equity (Aaker, 1991) help managers evaluate their marketing strategies. These measures may include evaluating programs, such as positioning and promotional strategies, that affect the long-term health of a brand.

Although numerous ways of measuring customer based brand equity have been proposed in the literature (Kamakura and Russell, 1992; Aaker, 1996a), most of these techniques measure brand equity at the aggregate or at the segment level (see Park and Srinivasan, 1994 for an exception). In addition, survey based methods (Green and Srinivasan, 1978) that use conjoint methods

require subjects to evaluate unrealistic product profiles, such as a high quality product being sold at a very low price. Park and Srinivasan (1994), using self explicated conjoint methodology, propose a method, which not only removes this limitation of conjoint methodology but also allows researchers to measure brand equity at the individual level. A major limitation of this method is that it makes an assumption that the parameter estimates, and hence the utility functions, have no errors in measurement. As a result, measures of brand equity are confounded with measurement errors.

Furthermore, another under-acknowledged problem in this area is that there are a number of indirect measures of brand equity and the applicability of these measures may in part be dependent upon the product class for which the measurement is being made. For example, brand dominance, the only brand known in the category, top of the mind share, brand knowledge, and brand recall are some of the measures of brand awareness. It is not known a priori which is the appropriate measure for a particular product class (Chernatony and McDonald, 1998).

In order to remove the limitations described above, we propose a method that allows us to estimate parameters at the individual level and also to minimise, if not eliminate, the need for evaluating unrealistic profiles. A 'nested design' based conjoint methodology coupled with a hierarchical linear Bayes model is used to estimate parameters at the individual level. In addition, brand equity is parcelled out into its sub-components and the effect of each of the sub-components on overall evaluation of the product is estimated.

There are several advantages of our methodology. Firstly, more often than not, parameters of the models are used to estimate brand equity (Park and Srinivasan, 1994) and other measures of brand vulnerability (Kamakura and Russell, 1989). In addition, some of these measures, such as that of brand equity, are required at an individual level thereby enabling a manager to segment the market on the basis of intangible attributes. As these measures involve linear and non-linear combinations of the model parameters,

a major advantage of this methodology is that it can account for the uncertainty that exists in the individual level parameter estimates. Secondly, it allows managers to evaluate each sub-component of brand equity both in its extent and its importance in the overall evaluation of the brand. Though common conjecture among researchers in this area (Aaker, 1991; Aaker, 1996a;) is that the weights for each of the sub-components of brand equity will be different across individuals and product categories, most of these studies use a simple average to come up with a composite score for brand equity (Cobb-Walgren et al., 1995). Using our method, managers will recognise the gains of, for example, increasing quality perception versus changing the personality of the product. Furthermore, parcelling the brand equity into its sub-components at the individual level will allow managers to segment the market on the basis of intangible benefits that consumers seek in a product. This method provides insight into the relative contribution of the sub-components of brand equity, such as, brand personality, brand awareness, perceived quality and organisational associations, to the overall brand equity.

This article is organised into five sections. Firstly, we provide a review of the extant literature in the area of measurement of brand equity. This is followed by our conceptual framework and measurement model for the measurement of brand equity. The third section outlines the research method and the rationale for our choice of this methodology. Study design and sampling details are also provided. This is followed by data analysis, interpretation of the results and managerial recommendations.

2. The Brand Equity Literature

Brand equity is a key indicator of the state of the health of the brand. Several factors are responsible for the increased interest in measuring brand equity (see Aaker, 1991 and Aaker, 1996b for a detailed discussion). The high level of mergers and acquisitions in the corporate world is given as one of the main reasons for the interest in estimating the value of a brand and consequently brand equity measurement (Srivastava and Shocker, 1991). Improvement in marketing productiv-