LITERATURE REVIEW: BRAND EQUITY

The objective of our research is to provide solutions to those methodological problems related to brand equity measurement presented later in this literature review.

1 GENERAL PRESENTATION

Brands stand out of the other marketing mix elements owing to the fact that they are capable of incorporating the positive effects of all marketing activities, and by this they become effective signals of quality for the experience and credence attributes (Erdem et al. 2006, Goldfarb et al. 2009).

The concept of brand equity has gained in popularity since the 1980s. The field has undergone significant development, and an increasing number of empirical models (Yoo and Donthu 2000, Netemeyer et al. 2004, Erdem et al. 2006) succeed the conceptual models (Aaker 1991, Keller 1993). The research priorities indicated by the Marketing Science Institute (MSI 2010) for the 2010-2012 periods include research related to brand management. The latest comprehensive literature review related to brand equity measurement appeared in 2010 (Christodoulides and Chernatony 2010).

In order to distinguish between consumer-based brand equity and brand equity expressed in financial terms, the literature uses consumer-based brand equity (Keller 1993) instead of brand equity, the latter appears without a distinctive epithet referring to brand equity expressed in financial terms (Ailawadi et al. 2003, Srinivasan et al. 2005) and in other cases is called brand value (Raggio and Leone 2006).

We will use the following formulations: brand equity refers to the preference of consumers towards the brand; brand value refers to the financial performance of the measured brand.

The greatest number of studies is concerned with brand equity measurement (Kamakura and Russel 1993, Erdem et al. 2006); there is a smaller number of studies focusing on brand value estimation (Ailawadi et al. 2003, Simon and Sullivan 1993); there are only a few that estimate both brand equity and brand value by linking (Srinivasan et al. 2005, Goldfarb et al. 2009). A great number of studies are based on survey based data (Yoo and Donthu 2000, Netemeyer et al. 2004, Srinivasan et al. 2005, Erdem et al. 2006), others are using market level scanner data (Kamakura and Russel 1993, Ailawadi et al. 2003, Goldfarb et al. 2009).

The concept of consumer-based brand equity has become a central marketing concept due to the increasing scientific and business interest in brands, since the approach according to which brands constitute one of the most valuable intangible assets of companies is becoming increasingly widespread (Kapferer 2008). Brands are able to stay on the market in the long term until products transform or disappear (Kapferer 2008); that is why it is worth investing in developing brands.

Owing to Aaker’s publications at the beginning of the nineties (1991), there has been a growing interest in the problem of financial returns generated by valuable brands (Fehle et al.
Companies of high brand equity can expect significant market share increase if they cut prices, while their share decrease would be insignificant if they increased their prices (Ailawadi et al. 2003). Several empirical researches report about a positive relationship between agency-based brand equity measures (BAV, Interbrand and Equitrend) and financial returns as well as stock returns (Barth et al. 1998, Fehle et al. 2008).

The most commonly known and frequently referred-to brand equity measure categorization belongs to Keller and Lehman (2001). In their system, we can speak about three large categories:

- Customer mind-set measures
- Product market measures
- Financial measures


Product market measures assess brand equity in the brand’s market performance. The most common product-market measure is price premium (Randall et al. 1998, Aaker 1991, Agarwal and Rao 1996, Sethuraman 2000). Further product-market measures use market share (Chaudhuri and Holbrook 2001) or revenue premium (Ailawadi, Lehman and Neslin 2003) to define brand equity. The advantage of these measures is that they can measure the result of the process by which the brand name adds value to the product; that is, they quantify the performance due to the brand name. Their deficiency lies in data providing and analyzing methods. Revenue premium measures often refer to hypothetical situations, conjoint analyses are costly and they do not make continuous measures possible due to the difficulties of data collection and the complicated statistical methods used in the analyses (Ailawadi et al. 2003).

Financial market measures assess the value of a brand as a financial asset, establishing a financial value of a brand. Measures often use the discounted cash flow model to assess financial value (Interbrand). The advantage of the financial value is that it can quantify future cash flow (Ailawadi et al. 2003).

## 2 Theory - Modeling

Two outstanding theories in brand equity literature define brand equity, the Resource Based View (RBV) (Hooley et al. 1998, Slotegraaf and Pauwels 2008) and the Signaling Theory (Erdem et al. 2006). The RBV theory defines the brand as intangible asset or market-based asset (Bharadwaj et al. 1993, Srivastava et al. 1998), while the signaling strategy defines brands as effective signals (Erdem and Swait 1988). Besides the above mentioned theories, the consumer-based brand equity literature (Keller 1993) also refers to the cognitive psychological approach. However, according to the authors’ present knowledge, cognitive psychology has no developed theory applied to marketing.
One of the most-referred-to definitions of brand equity was given by Farquhar (1989). According to it, brand equity is the added value endowed by the brand to the product. This definition stood at the basis of several further instruments measuring brand equity (Kamakura and Russel 1993, Srinivasan et al. 2005).

In Keller’s interpretation (1993), brand equity is “the differential effect of brand knowledge on consumer response to the marketing of the brand” given by the difference between consumer response to the marketing of the branded and unbranded product. Consumers give a more favorable response to marketing mix in the case of brands with high brand equity than in those with low equity. As a consequence, relative marketing costs decrease as the efficiency of marketing activities increase.

“The productivity of brand assets comes from both the demand and supply sides.” Goldfarb et al. (2009).

**Demand side effects - Brand equity**

A brand, through indicating quality, decreases the time for consumer decision, particularly when a consumer has no knowledge of the product category (Pashigian and Bowen 1994, Tsao et al. 2006, Ramello 2006). Consumers possess an image of product attributes based on previous experiences or marketing communication activities, and they, when recognizing a certain brand, are able to make a quick decision whether to purchase a particular product or not.

The demand side effect of the brand was operationalized in the economic theory based literature as the brand preference measured with the intercept term in the utility function (Kamakura and Russel 1993). Jedidi et al. (1999) captures the main effects of advertising and promotions on brand intercepts interpreted as brand equity. Brand preference is also extracted from brand intercept in the random utility of the multinomial logit in Chintagunta (1994). In Chintagunta et al. (2005) and Aribarg and Arora (2008) intrinsic brand value is also measured with the intercept term of the utility function, are also measuring brand equity with the intercept term. In Goldfarb et al. (2009) brand equity is conceptualized as the unobserved component of utility of products (Berry et al. 1995).

**Supply side effect – brand value**

A company’s protection against competitive attacks increases as the more differentiated brands result in lower price elasticity (Boulding et al. 1994), the company is more protected against competitive attacks (Srivastava and Shocker 1991), can apply premium pricing (Farquhar 1998), and can achieve a more successful brand extension (Keller 2003). Simon and Sullivan (1993) confirmed that stock exchange evolution contains information referring to brand equity as well. There is also a positive relationship between new products and stock return, which is a strong relationship only when a company has introduced a great number of new developed products into the market (Chaney et al. 1991). Companies of high brand equity can expect significant market share increase if they cut prices, while their share decrease would be insignificant if they increased their prices (Ailawadi et al. 2003).
We are building a random logit model based on previous empirical findings (Kamakura and Russel 1993, Goldfarb et al. 2009) and methodological advancement (Berry et al. 1995). We propose a model that will account for both demand and supply side effects of brands measured using market level scanner data representing real consumer choices. The estimation will be realized by using the SPML (semiparametric maximum likelihood) and SPB (semiparametric bayesian) estimators which holds some important advantages over previous estimation methods.

3 MOST IMPORTANT ISSUES OF BRAND EQUITY LITERATURE

One of the unsolved problems of brand equity measurements is related to the proper operationalization of the base brand.

According to the widely accepted (Keller 1993) definition measurement of brand equity presupposes a comparison between the measured brand and a base brand or a factual and a counterfactual (Goldfarb et al. 2009). Different solutions were offered: private label (Ailawadi et al. 2003), fictive brand (Ferjani 2009), or the brand with the smallest market share.

Srinivasan et al. (2005) defines brand equity with the help of the incremental choice probability, that is, brand equity is the difference between the choice probability of a certain brand and that of the base product. In their model, the base product is neither a private label, nor a fictive brand. At the individual consumer level, the model compares a certain brand to one in the sample in whose case the difference between product-related or awareness-related associations and objective measures is the smallest. Jourdan (2002) also measures brand equity as the difference between objective and subjective preferences, but their data collection referring to objective measures was not based on expert survey. Jourdan (2002) uses one sample instead of two, and, throughout the data collection built on the conjoint method, the members of the sample first had to assess attributes without knowing the brand name, later they re-assessed the attributes, this time in knowledge of the brand name.

Goldfarb et al. (2009) builds a counterfactual model by introducing the brand without its experiential attributes, and calculates the difference between the factual equilibrium and counterfactual equilibrium profit.

Brand equity measurement is fueled by the increasing interest in the need for measurement of efficiency of different marketing activities. Because brands are capable of incorporating all the positive effects of all marketing activities brand equity could provide an aggregate indicator of marketing activities (Srinivasan et al. 2005, Sriram et al. 2007). The process of value creation is illustrated with the help of the BVC (Brand Value Chain) by Keller and Lehmann (2003). BVC describes the process in which brand equity sources (awareness, associations) are created as an impact of marketing investments (advertisements, product development) and the way they increase the company’s market performance (price premium, market share), which eventually is able to create and increase the shareholder value.

It is a common practice to use market level data on advertising expenditures, promotion frequency (Jedidi et al. 1999, Ailawadi et al. 2003, Sriram et al. 2007, Goldfarb et al. 2009) in the literature closest to our approach. Beside advertising and promotion Sriram et al. (2007) studies also the influence of product innovation on brand equity.
4 The most important methodological approaches

Consumer-based brand equity research predominantly uses structural equations for estimation (Erdem and Swait 1998, Yoo and Donthu 2000, Netemeyer et al. 2004, Erdem et al. 2006). Some studies do not operationalize brand equity but only its dimensions (Netemeyer et al. 2004), others do not estimate brand equity as a second order latent variable, but they include the construct as a dependent variable (Yoo and Donthu 2001). Some studies estimate the causal measurement model in isolation and do not report on appropriate fit indicators.

Structural equation models are very popular in brand equity literature, however we follow a different econometric stream of literature based on the BLP model (Goldfarb et al. 2009) that makes possible measurement of brand effect on both demand and supply side while using market level scanner data.

In brand equity literature Kamakura and Russel (1993) are the first to address the problem of brand valuation by using a random utility framework. The probability of choice is estimated in a multinomial logit model by using market level scanner data.

Brand value is modeled by the utility component intrinsic to the brand, which reflects consumer’s perceptions and needs after controlling for price and advertising expenditure.

This conceptualization is related to the logic of consumer mindset measures, but it has to be estimated, opposed to survey based brand equity models where these perceptions are measured variables or are conceptualized as latent variables measured by reflective or causal/formative indicators. Kamakura and Russel (1993) are calculating brand value as indices; the values of measured brands are scaled to sum up zero.

Although they are using the brand value concept, actually they are measuring brand equity, meaning they are estimating consumer level utility, but not providing financial estimates of brand value.

One innovative feature of their model is that they are breaking down brand value into brand tangible and intangible value where the brands’ intangible value represents that part of the brand value which is not explained by physical attributes. Because they are using experience attributes in measuring the brand tangible value Goldfarb et al. (2009) assumes that they are likely to overestimate brand value. According to Christodoulides and Chernatony (2010) Brand Value provides a diagnostic ability of the brands competitive position, while the Brand Intangible value isolates the utility associated with intangible factors.

Kamakura and Russel (1993) proposed brand intercept as a brand equity measure. Sriram et al (2007) based on recent methodological advances (Berry et al. 1995) tested this measurement method using store level data on toothpaste and dish detergents. They found that the brand intercept effectively captures high equity of measured popular brands. They also validated brand intercept as a brand equity measure by analyzing its correlation with other brand
equity measures (price premium, sales premium, revenue premium) finding in every case positive correlations.

Ferjani et al. (2009) built a conjoint based brand-attribute interaction model, and tested its fit while analyzing five other specifications. They found strong evidence for the empirical superiority of the brand-attribute interaction model, and the Kamakura and Russel (1993) model specification performed second best in this comparison. According to Borkovsky et al. (2013) the addition of conjoint analysis enables a detailed understanding of the role of specific search and experience attributes in driving brand value.

The Goldfarb et al. (2009) model can be considered one big step forward in brand equity measurement. Was built on the Ailawadi et al. (2003) model however they measure brand value in profit terms while Ailawadi et al. (2003) operationalize brand value as revenue premium realized over a private label. The revenue premium assures a better measurement in comparison to others (price premium, volume premium) since it gives a more comprehensive picture. There might be cases when a brand assures price premium as opposed to a private label, but private label sales may exceed brand sales, which can result in a negative income. However profit premium is a more appealing measurement method of brand value over revenue premium as offers information about profitability while revenue premium does not.

In contrast to Ailawadi et al. (2003) Goldfarb et al. (2009) calculates the difference between equilibrium profit earned by the brand and the profit equilibrium in a counterfactual situation where the brand enters the estimation without its experiential attributes.

The Goldfarb et al. (2009) model measures brand effect on both demand (brand equity) and supply side (brand value). The brand positive effect on consumers (demand side effect) is defines as brand equity, and positive effect of brand on the financial performance (supply side effect) is defined as brand value (operationalized as profit premium).

In Goldfarb et al. (2009) brand equity is conceptualized as the unobserved utility (see Berry et al. 2005) component opposed to Kamakura and Russel (1993) who measures brand equity with the intercept term of the utility function.

Srinivasan et al. (2005) defined brand choice probability taking a multiattribute model as a starting point. Srinivasan et al. (2005) defines brand equity with the help of the incremental choice probability, that is, brand equity is the difference between the choice probability of a certain brand and that of the base product. In their model, the base product is neither a private label, nor a fictive brand. At the individual consumer level, the model compares a certain brand to one in the sample in whose case the difference between product-related or awareness-related associations and objective measures is the smallest. Finally, brand equity in financial terms is given by the product of brand choice probability and its contribution margin.

Christodoulides and Chernatony (2010) considers it a deficiency that Srinivasan et al. (2005) did not decompose the non-attributes component, but this is not possible in the Srinivasan et al. (2005) model since they calculated this component as the difference between brand preference and multiattribute preference measured on the basis of product-related attributes.

A further deficiency of the Srinivasan et al. (2005) model is that the objective brand measure is based on a survey of experts, and the objectivity of expert opinions should be treated with reservation as a brand name may also have an impact on experts. We might assume that mobile telephone test results might have been a more reliable objective measure.
In the Srivastava and Shocker (1991) brand equity model, similarly to the previous one, brand equity is made up of two elements: brand strength and the brand’s financial value. The Srivastava and Shocker (1991) model also combines consumer mind-set measures with product market measures, brand strength comes into existence based on consumer mind-set measures, while the second component, brand value defines the financial benefit for the firm.

Jourdan (2002), similarly to Srinivasan et al. (2005), used a multiattribute model as a starting point in devising his brand equity model (Christodoulides and Chernatony 2008). Jourdan (2002) developed his own brand equity model from Srinivasan and Park’s (1994) model. Jourdan (2002) also measured brand equity as the difference between objective and subjective preferences, but their data collection referring to objective measures was not based on expert survey. Jourdan (2002) used one sample instead of two, and, throughout the data collection built on the conjoint method, the members of the sample first had to assess attributes without knowing the brand name, later they re-assessed the attributes, this time in knowledge of the brand name.

5 REFERENCES


