Measuring brand image using a cognitive approach: Representing brands as a network in the Turkish airline industry

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ABSTRACT

This study extends the previous brand image measurement processes by using a mixed (qualitative and quantitative) methodology, drawing upon a cognitive approach to represent consumers' minds as a network. Therefore, three consecutive studies have been designed from a sample of 1000 passengers to construct four distinct concept maps and a common one pertaining to four Turkish airline companies. The results show the importance of increasing flight comfort, training cabin crew, providing free appetizers, improving service quality, and ensuring timely departures in creating and sustaining a positive brand image. Academicians could use this methodology as an alternative technique to the traditional ones and practitioners could use it to evaluate brands' competitive advantages to create powerful brand images in consumers' minds.

1. Introduction

In the airline industry, efforts to create strong brand images are important for airlines aiming to increase passenger confidence in the carrier (Lin and Ryan, 2016). In the brand management literature, it is assumed that creating favorable, strong, and unique brand images leads to sustainable competitive advantages with attractive economic returns (Aaker, 1991; Keller, 1998; Persson, 2010). This paper develops a measurement tool for airline companies to evaluate their brand images pursuant of creating powerful brands.

Measuring brand image is important in the airline industry in general, and the Turkish airline industry more specifically, because (1) the airline industry includes brands with which consumers are familiar, (2) there is strong competition in the domestic airline industry, and (3) developing the Turkish airline industry is among the aims of "Turkey 2023," which seeks to increase investment and expedite development within this sector.

It seems, however, that past research has searched for the strength of bilateral relations between the brand and associations - in the form of adjectives or items (Park et al., 2006; Brodie et al., 2009; Chen and Tseng, 2010) rather than conceptualizing and operationalizing brand image as a network with a quantitative approach. The network structure is only adopted qualitatively in existing brand image research. So, neglecting to approach networks in a quantitative way is a major gap in the "brand image measurement" literature that this study attempts to fill. When the brand is gauged as a network and visualized as circles

associated with each other, it can help identify associations that are strong within the brand (i.e., the thickness of the line, which reflects the link between brands and associations), associations that are more favorable (the diameter of a circle that represents the associations), and also associations that are unique (i.e., associations linked to only one brand). This depicts an alternative technique—brand concept maps—for measuring airline brand image using a mixed (qualitative and quantitative) research design.

Keller (1993)'s brand image definition indicating that a positive brand image can be created when associations linked to the brand are favorable, strong, and unique refers to a network of brands in consumers' minds, because brand knowledge is viewed from the perspective of an associative network memory model (Keller, 2016). In recent years, an increasing number of studies have adopted a qualitative network perspective in the brand management literature (Teichert and Schöntag, 2010; Wang and Horng, 2016; Maggioni, 2016; Tasci et al., 2017). However, none of them have studied associative networks for the purpose of exploring airline brand associations. The brand in this depiction can be placed at the focal point of associations, and the associations connect to the brand with bonds with various strengths. This network can be formed for each brand in a given market separately; it is also possible to talk about a structure that has associations with more than one brand so as to compare them (which represents an aggregated illustration).

The present study mainly contributes to measuring the brand images of airline companies using concept mapping as an associative

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network method to reveal the interconnected nature of brand associations in the airline industry which has hitherto not been studied. As already noted, this research technique has previously been applied qualitatively in other sectors; thus, the results therein cannot benefit from statistical analyses and subsequent generalization. To fill this gap, this study is designed in a quantitative manner and attempts to show the usability of this approach in the airline industry.

2. Conceptual background and literature review

2.1. Brand image as a source of brand equity

Brand image is a widely recognized and a salient component of marketing. It has been an important notion since the early 1950s and has emerged in consumer behavior research (Dobni and Zinkhan, 1990). Then, the brand equity concept emerged as an important part of the marketing literature in the 1980s and its importance increased in the 1990s (Cobb-Walgren et al., 1995). Actually, the concept is analyzed from two different perspectives: financial-based brand equity from the company's point of view and customer-based brand equity from the consumer's side. This study assumes that the financial point of view refers to brand value (which is calculated in financial terms) while brand equity refers to the marketing viewpoint that is consumer-based, adds to brand value, and affects the consumer's decision-making process (Raggio and Leone, 2007). Farquhar (1989) describes brand equity as an added value that a brand provides for a product and specifies that brand equity confers a competitive advantage to the company. Similarly, Aaker (1991) describes brand equity as a value that the brand name adds to the product.

Even though Aaker (1991) and Keller (1993) conceptualize brand equity differently, they compromise on brand associations that are grounded in the consumer's mind. According to a description offered by Keller (1993:8), "customer-based brand equity is a differential effect of brand knowledge on the marketing of the brand" and the brand image is a source of brand equity (Jara and Cliquet, 2012). A positive brand image leads to customer loyalty (Jin et al., 2012). Organizations use brand image to attract consumers by underlining the benefits that they provide to satisfy consumer needs and wants (Merz et al., 2009; Vargo and Lusch, 2004). In addition, brand image is a gateway for customers to recognize a product, evaluate its quality, understand and reconcile purchase risks, and obtain certain experience and satisfaction (Nagar, 2015).

With increasing competition, a good branding strategy has become a necessity to create differential effects in consumer minds, so as to secure a position, and ideally a niche, for companies (Ries and Trout, 2001). The air travel sector occupies fiercely competitive environments. Thus, airline branding is of significant contemporary importance. The reason is that, a strong brand image creates trust between passengers and airlines, so passengers feel secure when selecting a particular airline with which to travel (Lin and Ryan, 2016). In recent years, in the literature, brand image has become subject to several studies in airline industry contexts such as the effect of airlines' brand image on passengers' loyalty to airline brands (Chen and Tseng, 2010), the influence of advertising on the formation of brand personality as the emotional side of brand image (Cervera-Taulet et al., 2013), the effect of employees' brand citizenship behaviors to build a strong brand image in the minds of passengers (Erkmen and Hancer, 2015) and exploring the green image of airlines (Hagmann et al., 2015). These studies measured brand image in a quantitative way without focusing on the representation of brands by showing the strength, favorability and uniqueness of the brand associations which form a brand image.

Biel (1993) indicates that a good starting point to define brand image is a combination of what consumers relate to vis-à-vis brand names and what associations the brands have in consumers' minds. Keller et al. (2012) argued that positive brand image can be achieved by associating strong, favorable, and unique connotations to the brand in consumers' minds. How to create those kinds of associations depends on consumers' learning processes. In the first type of theory, the individual does not seem to be active because the learning process is assumed to depend on the stimulus. Furthermore, outcomes seem to be directly and automatically related to reinforcement in general. If a positive outcome is experienced, then the same reflection will continue for the same stimulus and, in the case of a negative outcome, this reaction will be derelict. Therefore, the meaning of the outcome cannot be interpreted or evaluated. In contrast, learning in the cognitive approach is seen as a process of active interaction with the environment (Hilgard and Bower, 1966; Bettman, 1979; Solomon, 2009).

2.2. Cognitive research method development: concept mapping with network analysis

How to create the associations in Keller et al. (2012) conceptualization depends on consumers' learning processes. Learning through the cognitive approach is seen as an interactive process between the learners and their environment. The consumer is seen as having some hypotheses related to the nature of the selection and as gathering information to test these hypotheses. When one alternative is selected and an outcome is formed, the effects of this outcome are not automatic for future decisions. Therefore, while the classical approaches see the individual in a simple way by not considering consumers as problem solvers, the cognitive approach emphasizes the process of creating inference from outcomes (Hilgard and Bower, 1966; Bettman, 1979). When cognitive learning is examined from a brand perspective, Solomon (2009) explained that there are conceptual systems that are saved in every person's memory according to brands, producers, and stores and that the content evolves according to each individual's experience. These saved units, or knowledge structures, look like a complicated spider web that includes data fragments. Connections are formed between the nodes in this associative network that includes information fragments. These nodes could be a brand, a property or a celebrity, or a product related to a brand (Solomon, 2009).

There are various qualitative and quantitative approaches for the measurement of brand image in the marketing literature, such as free association techniques, reflective techniques, and open-ended questions related to brand personality or brand personality scale, which were developed by Aaker (1997). However, unlike cognitive network theory, these scale techniques do not see brand image as a network; they, instead, focus on bilateral relations between brand and quality (Brandt et al., 2011) and do not consider whether associations are connected to brands directly or indirectly, which qualities are the foundations of associations, or which associations are interconnected among each other (John et al., 2006; Brandt et al., 2011). Thus, traditional brand image scales are inadequate to elucidate network structures in consumers' minds. Hence, the concept mapping technique based on assumptions transferred from human associative memory models is popular in brand measurement studies (John et al., 2006; Tasci et al., 2017). Measuring brand image with an associative network method parallel to a cognitive learning approach helps to:

(1) determine associations related to a brand;
(2) measure the strength of the brand associations; and
(3) show how favorable the associations are.

Therefore, brand maps provide a means to compare brands in terms of association and, thereby, visualize which brands relate more with consumers' favored associations.

Extant studies based on cognitive learning to create brand concept maps (John et al., 2006; Brandt et al., 2011; Schnittka et al., 2012) are exploratory and qualitative in nature and relatively limited in terms of sample size (between 35 and 123). However, in this study, data are collected to create a brand concept map amenable to statistical