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Advanced brand concept maps: A new approach for evaluating the favorability of brand association networks

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ABSTRACT

John, Loken, Kim, and Monga (2006) have introduced brand concept maps (BCM) as a powerful approach to measuring brand image according to the structure of the underlying brand association networks and reveal the strength and uniqueness of brand associations. Interestingly, BCM, as well as other consumer mapping techniques, do not incorporate explicit measures for the favorability of brand associations. This study extends the original BCM approach with explicit information on the favorability of single brand associations and, further, develops a new metric, brand association network value (BANV), which quantifies overall network favorability. Our advanced BCM approach and the new BANV metric are managerially relevant in that they allow for comparison of the favorability of networks at both individual brand association and aggregate network levels. We illustrate the relevance of our BANV metric within an empirical application and demonstrate its validity.

1. Introduction

Brand image constitutes an important element of customer-based brand equity (Keller, 1993). Understanding brand image demands the identification of a network of strong, unique, and favorable brand associations because consumers store brand information in the form of associative networks (Anderson, 1983; John, Loken, Kim, & Monga, 2006; Keller, 1993). Brand association networks identify, for instance, which associations are directly or indirectly linked to the brand and how these brand associations are connected to one another. Association networks also indicate the brand's value to consumers and suggest ways to leverage its equity in the marketplace (Aaker, 1996; John et al., 2006).

Two categories of techniques are specifically designed to measure brand association networks: consumer mapping techniques and analytical techniques (John et al., 2006). The former, including brand concept maps (BCM) and Zaltman's metaphor elicitation technique (ZMET), elicit *individual* brand association networks directly from consumers (John et al., 2006; Zaltman & Coulter, 1995). That is, respondents reveal how their brand associations relate to the brand and others by constructing their own network of associations. With these individual maps, researchers can aggregate the information to produce a consensus brand association network. Analytical techniques instead uncover brand associations through consumer surveys (e.g., repertory grids) and employ analytical methods to reveal the underlying *consensus* brand association network (Henderson, Iacobucci, & Calder, 1998).

Among consumer mapping approaches, the BCM method is particularly promising (John et al., 2006). Unlike analytical techniques, such as network analysis (Joiner, 1998; Lynch & Srull, 1982), the BCM technique allows for the analysis of brand association networks at both individual and aggregate levels because brand maps emerge for each respondent. In contrast to other mapping techniques, such as ZMET, BCM also gathers consumer perceptions using structured association elicitation, mapping, and aggregation procedures, which result in an easy-to-administer, less costly, and less subjective approach (John et al., 2006). John et al. (2006) also offer empirical evidence of the high reliability and validity of the BCM approach.

Because brand image is defined by the strength, uniqueness, and favorability of brand associations, organized in a network (Keller, 1993), it is surprising that BCM and other techniques do not incorporate explicit measures of the favorability of brand associations. That is, the BCM technique identifies relevant brand associations, groups them in a network, and offers information on the *uniqueness* of the associations (e.g., in terms of the multitude of brand-specific associations in a brand map thereby assuming that additional associations in the brand map increase the probability that associations are unique in comparison with competitors) and their *strength* (e.g., in terms of the degree to which associations are directly linked to the brand node or the strength of the associations´ linkage to the brand node (e.g., weak, moderate, or strong)) but does not provide explicit favorability information.

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Prior research reveals that the favorability of brand associations, as evaluated by consumers, varies substantially, particularly with regard to (1) individual evaluative judgments (i.e., how favorable each association is pronounced to be for the specific brand) and (2) their importance to the overall purchase decision (Fishbein & Ajzen, 1975; Keller, 1993; Wilkie & Pessemier, 1973). Therefore, we extend the original BCM approach by integrating explicit information on the favorability of brand associations within brand association networks (i.e., *advanced BCM*). Specifically, we include the original information about uniqueness and strength but also integrate explicit favorability information regarding (1) evaluative judgments of each brand association (Keller, 1993), as well as (2) the individual importance of each brand association to a consumer's purchase situation. This paper demonstrates that the added information has valuable management implications in that it makes the resulting networks more meaningful.

Because the original BCM technique and other mapping and analytical techniques do not account for explicit measures for the favorability of brand associations, they do not provide information regarding the favorability of the underlying association network.[3] Therefore, we introduce a new metric, the brand association network value (*BANV*) metric, which, for the first time, quantifies the *overall* favorability of brand association networks by combining network structure (i.e., the uniqueness and strength of brand associations) and the favorability of single brand associations (i.e., the evaluative judgment and the importance to the specific purchase decision) into a single measure. The new metric enhances the usefulness of the BCM methodology for comparisons of the network favorability at individual and aggregate network levels.

In the next section, we briefly outline the original BCM approach and our extended advanced BCM approach and derive our new BANV metric. We then describe the research design for our empirical application and demonstrate the validity of our new metric. In the final section, we discuss how the advanced BCM technique and the BANV approach contribute to brand image measurement and derive further research applications and limitations.

2. Derivation of the advanced BCM approach and the brand association network value (BANV)

2.1. The original BCM procedure

To demonstrate the contrast of the advanced BCM approach to the original BCM procedure, introduced by John et al. (2006), we begin with a brief description of the latter. The original BCM procedure consists of two major stages that provide individual brand maps: During the *elicitation* stage, highly relevant brand associations are identified (e.g., through in-depth interviews). During the *mapping* stage, respondents are asked to develop an individual brand map with these predetermined brand associations, in the center of which the brand emblem appears. Respondents then assign different strengths of association linkages to connect the selected brand associations directly to the brand emblem or indirectly to one another.

Thus, the original BCM approach provides individual network information regarding (a) the presence of each of the predetermined brand associations on the brand map, (b) the level at which each association appears on the brand map (e.g., first-order association = directly connected to the brand, second-order association = connected under a first-order-association), and (c) the strength of linkage connecting each association to the brand or to another association (i.e., weak links = single lines, moderate links = double lines, and strong links = triple lines).

Imagine the case of a premier health care brand, the Mayo Clinic, which is interested in using the original BCM approach to discover how patients perceive the brand after clinic stays (see John et al., 2006). Fig. 1a represents the original consensus map aggregated for 90 Mayo Clinic patients. Specifically, the solid-line circles signify core associations (i.e., associations that are included on at least 50% of the individual maps) and the dashed-line circles signify non-core-associations (i.e., associations that are included on less than 50% of the individual maps).

The consensus map in Fig. 1a provides information about the structure of the network, including the level of single brand associations within the network (e.g., six first-order associations) and the strength of their connection to other brand associations or the brand itself (e.g., strong triple-line linkage between the Mayo Clinic and “Best doctors in the world”). Although this network information is relevant to managers in determining consumers’ brand perceptions, it does not explicitly indicate, for instance, which of the six first-order brand associations should be a priority in future marketing activities because no systematic information regarding the evaluative judgment of each association and the corresponding association's importance in a choice decision for a specific clinic is available. Note that some associations, such as “Leader in medical research”, suggest valence to a certain degree and thereby provide implicit favorability information, but the favorability of brand associations becomes not explicit for all relevant associations within the original BCM approach.

2.2. Extension of the original BCM approach (advanced BCM)

Because the original BCM approach does not provide any explicit favorability information regarding single brand associations, our advanced-BCM procedure includes an additional evaluation stage as a part of the mapping procedure regarding (1) consumers' evaluative judgments of each brand association and (2) the individual importance of each brand association in the context of a consumer's purchase situation.

The first extension comprises respondents' statements regarding how favorable each association placed on an individual brand map is for the specific brand measured by a one-item, seven-point Likert scale (e.g., “The patient care available at the Mayo Clinic is good”). In contrast to the original BCM approach, in which some associations may have valences (e.g., “Best doctors in the world”), each association within our advanced BCM approach is neutrally titled and combined with the additional phrase “is good”. This process allows for positive and negative evaluations (i.e., 1 = totally disagree; 7 = totally agree).

Regarding the second extension, Keller (1993) argues that not all brand associations are relevant to the same extent for a purchase decision and, therefore, vary in their importance. For instance, a patient might strongly associate the Mayo Clinic with the association “World leader in new medical treatments” but rate the importance of this association as low in comparison with other associations, such as “Best patient care available” because s/he prefers a comfortable stay at the clinic. Thus, our advanced BCM also includes respondents' statements regarding the individual importance of each brand association to a purchase (or choice) decision as reported on a one-item, seven-point Likert scale (e.g., “The patient care available is an important attribute when choosing a clinic”). Implicitly, the original BCM approach might include information on the importance of brand associations. For instance, associations having a high degree of network centrality (e.g., being more interconnected) might be interpreted as being more important for understanding a consumer´s brand image. However, the

[3] For instance, network analysis only provides structural network indices, such as network density. These measures allow for comparisons of different networks with respect to differences in consumers' brand associative network structures (e.g., the number of existing association linkages) but cannot reveal information regarding the overall favorability of the underlying association networks (Henderson, Iacobucci, & Calder, 2002, Henderson et al., 1998, 2002).