Improving Attribute-Importance Measurement; A Reference-Point Approach

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EXTENDED ABSTRACT

Abstract

Despite the importance of identifying the hierarchy of product attributes that drive judgment and choice, the many available methods remain limited regarding their convergent validity and test-retest reliability. To increase the validity and reliability of attribute-importance measurement, we focus on the central antecedent of the importance of product attributes in judgment and choice: consumers' valuation curve of an attribute–the idiosyncratic valuation of an attribute at different attribute levels relative to consumers' reference points. We propose two new attribute-importance measures that reflect the determinance and the relevance of an attribute respectively, and show that accounting for the effects of reference points increases the predictive validity of attribute-determinance measures.

Introduction

Identifying product attributes that are important in judgment and choice is a key objective of consumer research. A wide variety of methods to identify important attributes have been proposed and examined (Van der Pligt et al. 2000). However, the convergent validity among these methods is low, and sometimes replications even yield inconsistent results (Jaccard, Brinberg, and Ackerman 1986).

The objective of this research is to improve the efficiency, validity and reliability of attribute importance measurement. We propose that valid and reliable attribute-importance measures can be obtained by focusing on the central antecedent of attribute importance: the consumers' valuation curve of an attribute. This valuation curve reflects the idiosyncratic valuation of an attribute at different attribute levels, relative to consumers' reference points (Tversky and Kahneman 1991). Building on reference-dependent theory (Kahneman and Miller 1986, Tversky and Kahneman 1991), we show that the importance of product attributes in consumer judgment and choice depends on *reference points*. We introduce two new attribute importance measures that explicitly include the reference point concept and compare them against existing importance measures. The proposed approach helps explain the lack of validity among and reliability of existing methods, and yields valid and reliable attribute-importance measures that account for the effects of reference points and loss aversion. The approach allows for the determination of *two* dimensions of attribute importance: the *determinance* of an attribute in a judgment task (the importance of an attribute in judgment and choice), and the *relevance* of an attribute, independent of a product space (the importance of an attribute for a consumer) (Myers and Alpert 1968). Furthermore, the approach can be used for a variety of attributes and in different contexts, an important property, as both factors affect the importance of attributes in judgment and choice (Tversky, Sattath, and Slovic 1988).

Theoretical Background

The determinance of attributes reflects the importance of attributes in judgment and choice. It is generally calculated based on the difference in valuation of different attribute levels (e.g., conjoint method). Research on the determinance of attributes generally ignores the use of reference points. However, we hypothesize that the determinance of an attribute is larger when its attribute levels are perceived as losses, relative to reference point, than when these levels are perceived as gains (cf., Bell and Bucklin 1999).

To understand the effect of reference points and loss aversion on attribute importance, following Fishbein and Ajzen (1975), we assume that attribute-valuation curves drive judgment and choice additively. The attribute-valuation curve of an attribute reflects the valuation of attribute at different levels, related to products, relative to the related reference point. We assume that consumers' reference point of an attribute is determined by the level of the attribute of the product they currently use and that all alternatives in a specific product space are compared to this point (Briesch et al. 1997). The basic shape and properties of attribute-valuation curves are determined by three assumptions (Tversky and Kahneman 1991). First, it is assumed that the valuations of attribute levels are gains or losses relative to a reference point (*reference dependence*). Second, it is assumed that, as losses loom larger than corresponding gains, consumers weigh losses more heavily than gains (*loss aversion*). Third, it is assumed that the marginal valuation of both gains and losses decreases with their size (*diminishing sensitivity*). The assumptions produce an asymmetric S-shaped valuation curve, concave above the reference point and convex below it.

If consumers' reference points influence the determinance of attributes, we should account for this effect in calculating the determinance of attributes and develop more valid and reliable determinance measures. By testing the predictive validity of a new determinance measure that accounts for the effects of reference points and loss aversion, we can gain some initial insights into the validity of this proposition.

Attribute-valuation curves reflect both the *determinance* as well as the *relevance of the attribute*. By correcting the attribute-valuation curve for the difference in weights of losses and gains, as well as for the effect of diminishing sensitivity, the relevance of the attributes, the importance of the attribute for consumers, can be calculated as well.

Method

We examine and test the proposed approach in a controlled field experiment, involving 396 weekend visitors to an academic open-house at a Midwestern University. Assuming that attribute-valuation curves drive judgment and choice additively, we measure consumers' valuations of specific attribute levels as well as their valuations of the reference point related to the attribute under consideration using full factorial conjoint (1-9 Likert scale). Next, using the assumptions of reference dependence, loss aversion, and diminishing sensitivity, we examine the effect of reference points on attribute importance, and calculate two new attribute importance measures: *the determinance* and *relevance* of attributes.

Results and Conclusions

First, the results show that the determinance of attributes depends on the consumers' reference point, and on whether the attribute levels in the product space represent gains or losses relative to that reference point. The determinance of an attribute is

larger when the attribute levels represent losses compared to the consumers' reference point than when they represent gains. This effect is found both for the price and the taste attribute.

Second, building on this finding of the effects of reference points and loss aversion on the attribute determinance, we proposed a new attribute-determinance measure, which explicitly accounts for the effects of reference points and loss aversion. The results suggest that the predictive validity of this new measure is higher than that of attribute-determinance measures that ignore the effects of reference points and loss aversion.

Third, we have shown that focusing on the attribute-valuation curve not only allows for the calculation of the determinance, but also for the relevance of attributes. By correcting the attribute-valuation curve for the difference in weights of losses and gains, as well as for the effect of diminishing sensitivity, the relevance of the attributes, the importance of the attribute for consumers, can be calculated as well. Reference points do not seem to influence the relevance of the attributes studied. Because the proposed approach generates two attribute-importance measures (with minimal burden on respondents), we conclude that the proposed approach is relatively efficient compared to methods that require respondents to execute two tasks to ascertain both the determinance and the relevance of an attribute.

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