Difficult to Evaluate Product Features: Why Credible Branding Matters

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Abstract

This paper examines how difficulty in evaluation affects the role of features in consumer choice. Hsee's (1996) work on evaluability of attributes suggests that hard-to-evaluate features become more (less) important in joint (separate) evaluation tasks where other feature levels are (not) present. Extending this, we examine what happens when difficulty in evaluating features remains even when the benchmark of another feature level is present. Using signalling theory, we argue that consumers utilise brand information, but the extent to which this occurs depends on feature evaluability. Preliminary data shows support for the hypothesised effects, suggesting credible branding generates value in terms of an overall effect on product assessment, but can additionally counteract the effects of hard-to-evaluate features being discounted in choice.

Keywords: Brand Credibility, Brand/Feature Reliance, Ease of Evaluation, Evaluability, Product Specifications

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Introduction

Deciding what product information to promote or disregard can be difficult for marketers aiming to inform consumers about their product's competitive advantages. However, a trade-off occurs in that consumers could be overwhelmed by technical product information (e.g. Chernev, 2003), while insufficient information may lead to negative inferences that a product is inadequate (e.g. Ross and Creyer, 1992). Reactions to technical product information vary, but it is proposed that difficult-to-evaluate features are discounted because of uncertainty about what value they offer. However, we also argue that brands play an integral role in balancing this risk-reducing strategy. By understanding these hypothesised reactions to difficult-to-evaluate features, communications about brands may be better managed.

The importance of this topic is highlighted when one considers the extent to which difficult-to-evaluate features characterise many product categories. For example, televisions are described by their resolution in terms of pixels, sunscreens by their sun protection factor (SPF) rating, diamonds by their karat rating, and breads by their Glycaemic Index (GI). Hsee *et al.* (2009) argues that while the prevalence of such product features occur and even where information about products is readily available, the effect of technical or quantitative specifications on consumer preference is not well understood. Hsee, however, demonstrates that consumers perceive value in product specifications even when they have objective experiential information, i.e. direct product experience, rendering the specification meaningless (Hsee *et al.*, 2009). Further, tangential research on ambiguous or meaningless features also indicates that consumers perceive value in normatively meaningless information (e.g. product features) which add no objective value to products (e.g. Carpenter, Glazer and Nakamoto, 1994).

While Hsee *et al.* (2009) demonstrates that the framing of product specification impacts overall product evaluations, the research offers little insight how the presence of brands may moderate these effects. Consumers may be somewhat confused or uncertain about how features will affect consumption experience. As a result, consumers may ignore the feature specification, relying more heavily on the product's brand name to help decipher whether the specification is associated with a credible voice. This paper evaluates the relative contribution of both product specifications and brand-name on consumer choice. We assert that the perceived complexity of product specifications moderates the influence of both features and brands in determining choice. These assertions are now considered with existing literature and a model developed from which our hypothesised effects are outlined and subsequently tested.

Brief Overview of Literature on Difficult to Evaluate Features (Attributes) and Brands

The attribute-evaluability hypothesis (Hsee, 1996; Hsee *et al.*, 1999) suggests consumers derive value from technical, hard-to-evaluate product specifications dependent on the number of alternatives under evaluation. To say that a feature is hard-to-evaluate means that consumers fail to understand the implied benefit of the stated specification (Hsee, 1996; Hsee *et al.*, 1999). Consider, for example, a dictionary of 40,000 words, perhaps to some an impressive quantity. Consumers may desire a dictionary with a large amount of words over one with a lower word count; however, without a benchmark figure to evaluate whether 40,000 words is relatively high or not, it is difficult to precisely ascertain its value. Hence,

Hsee's research shows support for the hypothesis that when evaluating a single product in isolation of competing alternatives (i.e., separate evaluation), consumers rely on specifications that they find easy-to-evaluate, ignoring or paying less attention to features they find hard to evaluate. In contrast, when exposed to multiple alternatives simultaneously (i.e., joint evaluation), consumers ascribe relatively more value to hard-to-evaluate specifications.

While Hsee's attribute evaluability hypothesis suggests that burden of complex specification of products is eased for consumers in joint evaluation tasks relative to separate evaluation tasks (Hsee, 1996; Hsee *et al.*, 1999), the theory offers less insight about what strategies a consumer utilises when faced with remaining complex specifications in joint evaluation situations. Many joint evaluation situations are characterised by both brand and product information; and, it is well established that brand names play a significant role in aiding decision making (e.g. Aaker and Keller, 1990; Keller, 1993). Brand-names play a significant role in reducing uncertainty (Erdem, Swait and Louviere, 2002). The signalling perspective of brand equity (Erdem and Swait, 1998) argues that under uncertainty, consumers utilise what they know of the overall brand (in terms of brand credibility, consistency, etc.) to decrease perceptions of risk and potentially boost perceptions of quality. If consumers are unable to decipher what a stated specification means, it is likely that they will look elsewhere to aid their decision. As brand names characterise almost all product evaluations and decisions, we focus on a brand's ability to act as a quality signal in light of hard-to-evaluate specifications.

Theoretical Framework and Hypothesised Effects

The objective of this paper is to further the understanding of how consumers evaluate products characterised by quantitative specifications. Specifically, we evaluate how perceptions of evaluation ease impact (1) the importance (weight) consumers assign to the product feature underlying the specification; and, (2) the importance of brand in the decision. Similar to Hsee's work, we argue that if consumers can happily see differences across product feature levels (i.e. they find the feature easy-to-evaluate), the specification will be of some value. Thus, we propose a relationship between the ease of evaluating product specifications and importance of the feature, and its impact on overall product utility:

> **Hypothesis 1:** Even in joint evaluation tasks, the more complex a feature, the less important that feature is to consumers.

Although prior research suggests that hard-to-evaluate features may be somewhat important to consumers in joint evaluation situations, we posit that such features can remain hard-to-evaluate. As a result, consumers are expected to rely relatively more on brand signals to aid decision making. We propose a relationship between the ease of evaluating a feature's specification and the overall value of a brand:

> **Hypothesis 2:** In general, the more complex the feature, the more consumers will increasingly depend on other attributes such as credible brands to counter balance the complexity of such specifications.

Finally, independent of what one feels about the ease of evaluating the feature, we posit that what one thinks of a brand impacts their evaluation of a feature. Consumers may have heightened sensitivities towards selecting a less-credible, less-established brand, only selecting such brand if it adheres to a particular standard or decision rule e.g., low price

(Erdem, Swait and Louviere, 2002). Alternatively, consumers may feel relatively more comfortable selecting credible brands independent of price and features offered. It is proposed that the importance of features may be brand-specific. Specifically, we posit that consumers are likely to be more sensitive to complex specifications associated with less-credible brands:

> **Hypothesis 3:** The weight attached to specifications in a consumer's overall evaluation of a product is moderated by brand credibility.

To model and examine the presence of the aforementioned effects we deem product choices – with variation in the evaluability of features and brands – to be a decision phenomena examinable using Multi-Attribute Utility Theory (Lancaster, 1966). In this view, the overall attractiveness of a product is partitioned to be a linear function of the 'k' features of a product with brand 'j' (X_{kj}) and the importance of such features being offered by this brand (β_{kj}). The hypotheses, however, suggest that the value of a given feature is moderated by perceived ease of evaluation (D_k) and further moderated by whether the brand can be used as a signal to reduce uncertainty in difficult-to-evaluate product feature situations as a result of its credibility (C_j). Thus the systematic utility of choice option 'i' (V_i) is determined by the branding of this option as brand 'j', its attributes along 'k' dimensions and can be modelled as all main effects and interactions of a linear-in-the-parameters function specified within $V_i = f(X_{kj}, D_k, C_j)$. To clarify, the significance of the interaction between a feature's ease of evaluation score and the relevant feature ($D_k \cdot X_{kj}$) is the basis for testing H1. The significance of the interaction between a feature's ease of evaluation score and brand ($D_k \cdot C_j$) allows testing H2. Finally, the interaction between a feature 'k' and brand 'j' allows testing of H3 ($X_{kj} \cdot C_j$).

Experimental Method and Results

A choice experiment involving compact digital cameras was developed to investigate the effect of perceptions of specification ease on the value of product features and brand. A pilot study identified four salient features (resolution, weight, shutter speed, zoom) and three differently perceived brands on the basis of credibility in the digital camera market: Canon (market leader), Olympus (market follower), and Samsung (non-credible). The design consisted of one condition and evaluation ease for each feature was measured via a scale also used by Hsee (1996).

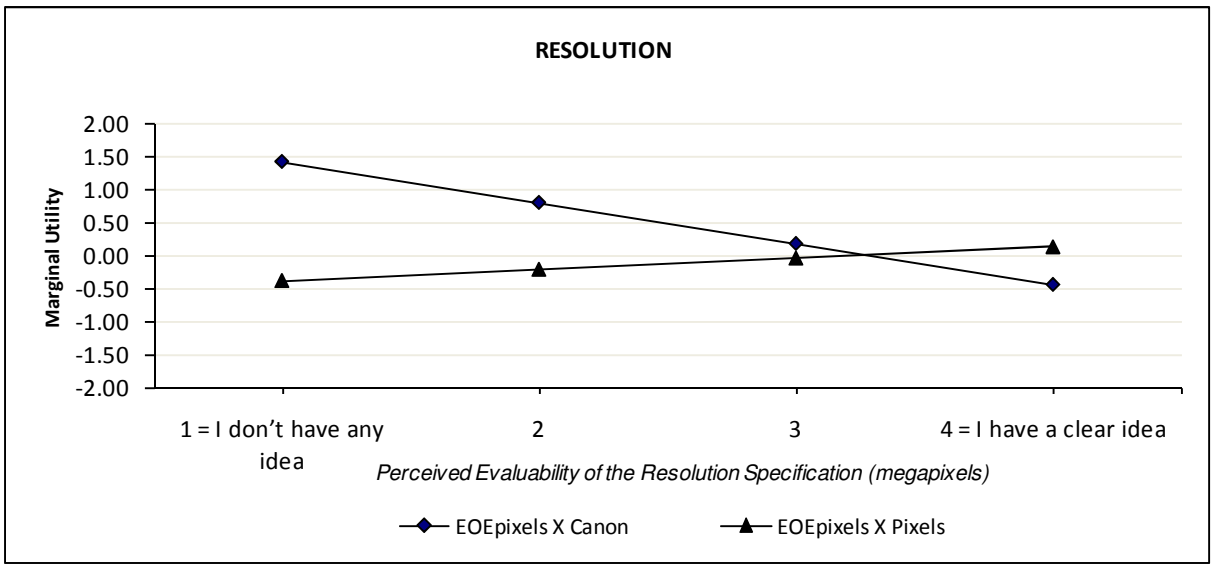
The choice experiment proceeded as follows. After viewing the instructions and study overview, participants reported current camera ownership, usage, and attitudes. Perceptions of each brand were measured via Erdem and Swait's brand-equity dimensions (Erdem and Swait, 1998). Participants were then presented with a randomised set of 16 choice sets. The choice sets were constructed using the full set of options specified by an alternative (brand)-specific balanced and orthogonal main effects design (Louviere, Hensher and Swait, 2000; Louviere and Woodworth, 1983). Respondents viewed each choice set described by the four product features and price, indicating their most and least preferred options from the three available (Canon, Olympus, Samsung) and whether they would purchase their most preferred option. Finally, socio-demographic information was collected along with further individual level information about the perceived evaluability of each product feature.

As a preliminary test of the hypotheses, this paper reports on an online choice experiment using a convenience sample (n=37; 40% female, 60% male; modal age: 25-29 years); this approach not limiting the validity of our research findings as we would expect to see the

hypothesised relationships independent of an individual's demographic profile. The data was expanded using an approach outlined by Luce and Suppes (1965), generating 208 observations per individual (see also Chapman and Staelin (1982) and Louviere *et al.* (2008) for details about this approach). The analysis presented here focuses on 18 respondents who own or use a Canon camera, resulting in 3744 observations.

The results indicate that, as expected, consumers appear most likely to value a feature when they have a clear idea about the specification used to describe levels. This result is demonstrated for resolution, weight, and zoom as indicated by positive coefficient for D_k*X_j, supporting H1 (Table 1). Further, we find that consumers are most reliant on brand when they have little idea what the feature/specification actually means (i.e. ease of evaluation score = 1). Thus, we find empirical support for H2 (i.e. negative effect of $D_k*C_{j;}$ Table 1). To illustrate these two effects (H1 and H2), the value of both the feature and brand over perceived evaluability is illustrated in Figure 1 for one feature (resolution). Similar results can be demonstrated with the other features, but not presented here for brevity. Finally, we find that the importance of a feature may be brand-specific (e.g. weight; Table 1). Thus, we find partial empirical support for H3.

Figure 1: Impact of ease of evaluation (EOE) on brand-reliance and feature-importance



Discussion and Conclusions

Choice remains difficult for some consumers even when some evaluations of a product's features (e.g., 3x optical zoom) are aided by the presence of another feature level (e.g., 7x optical zoom). In such a case, Hsee (1996) and Hsee *et al.* (1999) argue that difficulty in evaluation is eased by providing benchmarks for the focal feature level relative to cases where such benchmark are unavailable. Whilst this point is not debated, an unknown effect is whether the differences between two levels can still remain difficult-to-evaluate and thus impact choice. The results suggest that remaining difficulties in evaluation of differences in product features results in two things: namely, that (1) the feature is less important among those consumers who perceive difficulty in evaluating it; and, (2) that the adjusted value of this feature is dependent on the credibility of the brand offering it.

The research extends our understanding of brands beyond being a mechanism to choose amongst alternatives as an overarching source of value. Many would concur the value of a brand is in its ability to eliminate choice deferral as reflected in a strong alternative-specific (brand) intercept effect. This research extends brand as simply the "constant" difference in a choice, but that its impact extends to other aspects of judgement. Brands are not just a valuable tool in helping attract consumers to the overall product, but are further utilised by consumers as an aid (signal) to navigate through complex decisions. The more credible a signal, the more value the brand commands in being able to eliminate decision uncertainty, not just at an overarching level, but also at a feature specific level. On the other side, however, is the result that suggests that when a feature is easy-to-evaluate, the role of brand to eliminate any further aspects of uncertainty of using this feature in choice is dissipated.

For the market leader, this implies that value lies in building credible brands positioned on promoting valued differences among features that are difficult-to-evaluate. For example, Canon would strike twice by being able to command an overall premium value for its offering, but also by motivating consumers facing difficulty with a technical feature to rely on brand to reduce uncertainty. The research implies, that this would be valuable even for easy-to-evaluate features (e.g., differences in mega-pixels), but a limitation of the research is that the marginal effects are to be considered as determinant of the range of differences considered (see Orme, 2006).

For the market follower or minor player, however, where credibility in branding offers no reassurance in complex (difficult) trade-offs, value may lie in alleviating the use of brand in the choice itself. The research presented here suggests that this is potentially achieved by guiding consumers to focus on the choice in terms of easy-to-evaluate features as much as possible, knowing that the reliance on brand differences (which would hurt the minor brand) will be less in these cases. In turn, the research has strong implications for how brands should consider positioning on the basis of product features as defined by ease-of-evaluation.

Technical Appendix

Table 1: Conditional Logistic Regression of Digital Camera Choice for Canon User Sample: With Interaction Effects for Ease of Evaluation (EOE) and Brand

	est. b	s.e.	t-stat	p-value	
Value of Brand (Overall) (C_j):					
canon_intercept	-0.051	0.135	-0.380	0.707	
olympus_intercept	-1.387	0.150	-9.230	0.000	**
samsung_intercept	-1.915	0.159	-12.040	0.000	**
Value of Feature (Overall) ($X_{kj} \cdot C_j$):					
canon_price	0.433	0.072	5.980	0.000	**
canon_weight	-0.023	0.072	-0.320	0.753	
canon_pixels	0.203	0.072	2.810	0.005	**
canon_shutter	0.126	0.072	1.750	0.080	
canon_zoom	0.277	0.075	3.680	0.000	**
olympus_price	0.292	0.081	3.610	0.000	**
olympus_weight	0.425	0.078	5.450	0.000	**
olympus_pixels	0.251	0.078	3.240	0.001	**
olympus_shutter	0.096	0.077	1.240	0.213	
olympus_zoom	0.207	0.078	2.650	0.008	**
samsung_price	0.324	0.086	3.780	0.000	**
samsung_weight	0.371	0.086	4.290	0.000	**
samsung_pixels	0.364	0.086	4.240	0.000	**
samsung_shutter	0.028	0.085	0.330	0.738	
samsung_zoom	0.209	0.085	2.440	0.015	*
EOE x Value of Feature ($D_k \cdot X_j$):					
EOE_{pixels} x pixels	0.170	0.069	2.470	0.014	*
EOE_{weight} x weight	0.151	0.049	3.090	0.002	**
$EOE_{shutter}$ x shutter	-0.117	0.055	-2.140	0.032	*
EOE_{zoom} x zoom	0.146	0.048	3.070	0.002	**
EOE x Value of Brand ($D_k \cdot C_j$):					
EOE_{pixel} x canon	-0.616	0.235	-2.620	0.009	**
EOE_{pixel} x olympus	-1.025	0.261	-3.920	0.000	**
EOE_{pixel} x samsung	-1.211	0.271	-4.470	0.000	**
EOE_{weight} x canon	0.357	0.179	2.000	0.046	*
EOE_{weight} x olympus	0.669	0.196	3.410	0.001	**
EOE_{weight} x samsung	0.383	0.202	1.900	0.058	
$EOE_{shutter}$ x canon	-0.818	0.212	-3.860	0.000	**
$EOE_{shutter}$ x olympus	-0.951	0.229	-4.150	0.000	**
$EOE_{shutter}$ x samsung	-1.191	0.239	-4.980	0.000	**
EOE_{zoom} x canon	-0.353	0.167	-2.110	0.035	*
EOE_{zoom} x olympus	-0.721	0.184	-3.920	0.000	**
EOE_{zoom} x samsung	-0.469	0.192	-2.450	0.014	*

NOTES:

1. Features *price* and *weight* have been reverse-coded such that increases in all features are optimal. *Signs as expected.*
2. Reference *(*base) alternative is not purchasing one's most preferred brand.
3. Estimation of *EOE* x *Feature ($D_k \cdot X_j$)* is based on a generic estimation of each feature.

* $p < .05$ ** $p < .01$

Summary Statistics	
Number of Observations	3744
LR $chi^2(34)$	757.8
Prob > chi^2	0
Log likelihood	-935.623
Pseudo R^2	0.288

Feature	***Level 1***	***Level 2***
Price ($)	$299	$369
Resolution (mp)	8mp	10mp
Weight (g)	153g	201g
Shutter-Speed (secs)	1/1500	1/2000
Zoom (mm)	38-114	37-260

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