Calibration and Confidence with Online Shopping

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ABSTRACT

While eCommerce sales continue to grow as a percentage of total retail sales, product information asymmetries, (i.e., the limited access to tangible product information in an online environment) remains a concern with consumers. These information asymmetries are exacerbated with experience goods and products that require customization in a technology-mediated environment. Existing eCommerce research has examined how interfaces can be designed to reduce asymmetries of information, focusing primarily on the improved diagnosticity of the website and online shopping intentions. Consumer confidence and decision calibration – the accuracy of one's decision confidence when compared to decision quality- have received little attention in an online shopping context and could shed light on how interface features can help improve online shopping intentions and product satisfaction. The study of calibration is important in an eCommerce context because it considers shoppers' post-purchase assessment of the quality of the product, which often cannot be fully assessed during the online shopping experience.

Recent eCommerce research has investigated how website features can mitigate consumer's asymmetries of information when shopping online. Pavlou et al. (2007) examine how product diagnosticity, trust, website informativeness, and social presence influence perceived information asymmetry, and downstream variables such as purchase intention and reported purchasing behavior. Jiang and Benbasat (2005) investigate how a virtual product experience (VPE), created by integrating interactivity and vividness into website design, can impact attitudes towards product and website, and ultimately affect user intention to purchase. While research has examined how interface features and perceptions can influence consumers' pre-purchase intentions in conditions of information asymmetry, few studies have investigated how such features influence consumers' post-purchase perceptions, more specifically, their confidence in their product selection and their satisfaction with the purchase post-selection – the quality of their product decision.

The accuracy of an individual's decision confidence is referred to as calibration, and many decision-making studies have been conducted on the level of agreement between one's confidence in a decision and the quality of the decision (e.g., Keren 1991; Lichenstein and Fischhoff 1977). This research has documented situations of under-confidence and overconfidence and the conditions that can lead to miscalibration (e.g., task complexity). The concept of calibration has been applied in marketing to study how calibration can affect consumer choice (Kidwell et al. 2008) and in IS research to design decision support systems that may reduce miscalibration (Ashford and Kasper 2003; Kasper 1996). Calibration and the related concept of decision confidence, however, have received limited attention in eCommerce research and the online product selection process. The study of calibration in an online shopping context may provide insight into how website design can influence user confidence in an online product selection and subsequent satisfaction in the product received.

In this study, we apply calibration theory to an eCommerce context to explain how an online environment can result in miscalibration with the purchase of an experience good. We offer a research model (see Figure 1) with associated hypotheses that applies calibration theory to an online shopping context, integrating diagnosticity and controlling for known determinants of website intentions. In this initial study, the design feature of visibility - the use of diagrams, images, and animation within the interface – is manipulated and hypothesized to influence diagnosticity, the helpfulness of the interface in evaluating a product.

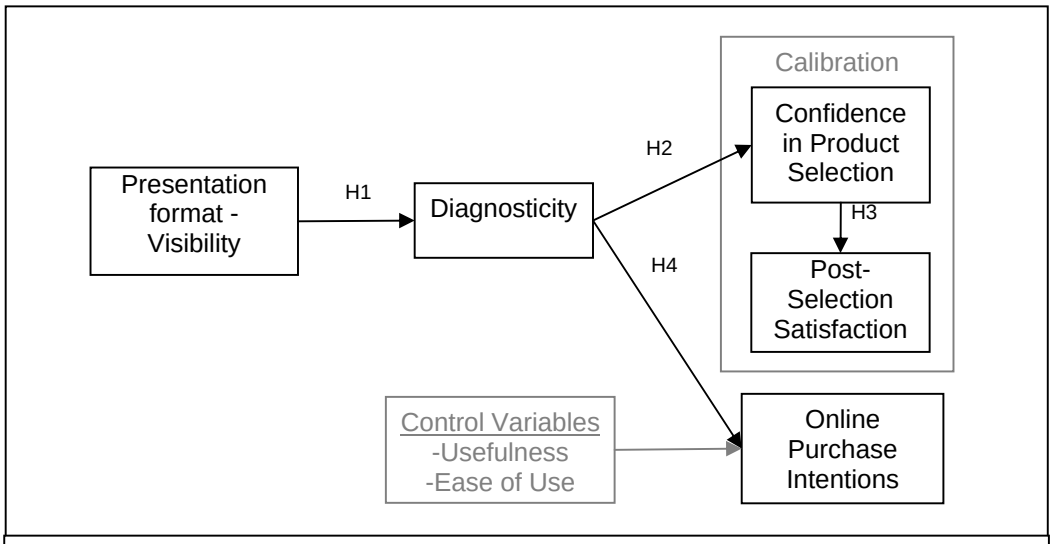

Figure 1. Research Model

A laboratory experiment was conducted using a 2x1, between-subjects research design. A web site was developed that enabled users to customize the appearance of a golf (collared) shirt with a university logo. Two levels of visual cues (i.e., visibility) were implemented as treatments (Text Only=T, Text +Visual Cues=TV). 183 subjects participated in the study and were asked to customize an article of clothing, a golf shirt, using an experimental website. The website enabled subjects to customize the size, color of shirt/collar, color of the university logo, and the color of the text (university letters) below the logo. Subjects were subsequently surveyed on their confidence calibration after viewing the final, customized product.

The results from this preliminary research indicate that the perceived diagnosticity of the website positively influences users' confidence calibration and users' intention to purchase, while known determinants of behavioral intention (i.e., usefulness and ease of use) do not influence user confidence. These results highlight the importance of assessing calibration and diagnosticity in eCommerce studies to better understand consumer confidence and post-selection satisfaction. Our findings are also consistent with prior calibration research on task complexity and under-over confidence (i.e., miscalibration). With tasks of low complexity, under confidence results, whereas with complex tasks, overconfidence results. The task in this study was a simple task and the general trend was for subjects to be less confident in the expectations of the customized shirt as compared to their final post-selection satisfaction with the shirt. Practical implications from this study include designing websites with comprehensive visual representations of customized, experience products. Providing such visual representations may increase consumers' confidence and encourage them to continue with the checkout process.