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What You *Don't* Know About Customer-Perceived Quality: The Role of Customer Expectation Distributions

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Abstract

We show that some of the most common beliefs about customer-perceived quality are wrong. For example, 1) it is not necessary to exceed customer expectations to increase preference, 2) receiving an expected level of bad service does not reduce preference, 3) rational customers may rationally choose an option with lower expected quality, even if all non-quality attributes are equal, and 4) paying more attention to loyal, experienced customers can sometimes be counter-productive. These surprising findings make sense in retrospect, once customer expectations are viewed as distributions, rather than simple point expectations. That is, each customer has a probability density function that describes the relative likelihood that a particular quality outcome will be experienced. Customers form these expectation distributions based on their cumulative experience with the good or service. A customer's cumulative expectation distribution may be conceptualized as being a predictive density for the next transaction.

When combined with a diminishing returns (i.e., concave) utility function, this Bayesian theoretical framework results in predictions of: (a) how consumers will behave over time, and (b) how their perceptions and evaluations will change. In managerial terms, we conclude that customers consider not only expected quality, but also risk. This may help explain why current measures of customer satisfaction (which is highly related to expected quality) only partially predict future behavior. We find that most of the predictions of our theoretical model are borne out by empirical evidence from two experiments. Thus, we conclude that our approach provides a useful simplification of reality that successfully predicts many aspects of the dynamics of consumer response to quality.

These findings are relevant to both academics and managers. Academics in the area of customer satisfaction and service quality need to be aware that it may be insufficient to measure only the point expectation, as has always been the standard practice. Instead it may be necessary to measure the uncertainty that the customer has with respect to the level of service that will be received. Due to questionnaire length constraints, it may not be practical for managers to include uncertainty questions on customer satisfaction surveys. Nevertheless it is possible to build a proxy for uncertainty by measuring the extent of experience with the service/good, and this proxy can be used to partially control for uncertainty effects.

The findings of the study were obtained using 1) an analytical model of customer expectation updating, based on a set of assumptions that are well-supported in the academic literature, and 2) two behavioral experiments using human subjects: a cross-sectional experiment, and a longitudinal experiment. Both the analytical model and the behavioral experiments were designed to investigate the effects that *distributions* of expectations might have, and especially the effects that might deviate from the predictions that would arise from a traditional point expectation model. The behavioral experiments largely confirmed the predictions of the analytical model. As it turned out, the analytical model correctly (in most cases) predicted behavioral effects that contradict some of the best-accepted "truisms" of customer satisfaction.

It is now clear that a more sophisticated view of customer expectations is required—one that considers not only the point expectation but also the likelihood across the entire distribution of possible outcomes. This distinction is not "just academic," because it results in predictable behavior that deviates significantly from that which was traditionally expected based on simpler models.

(*Quality*; *Customer Satisfaction Measurement*; *Customer Expectations*; *Customer Retention*; *Bayesian Updating*; *Customer Lifetime Value*)