

# Editorial

## Analytical Transparency

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Data are ever more available to academic researchers, and their ubiquity offers an ever-growing promise of addressing in a brute-force way many of the business problems firms face today. Despite—or perhaps because of—the ubiquity of these data, there is more than ever a need for theory in the research we as academic researchers do. Whether the theories are behavioral or economic in origin does not matter; theories help us navigate a path through data, determine what additional data need to be collected (lab or field) to test those theories, and interpret our empirical results—assuming, of course, that those theories are understandable. Interpretable and well-written theory provides sharp predictions that can be tested (Shugan 2007).

In particular, the set of tools that we in the field of marketing call “analytical modeling” today rests on the development of an appropriately stylized world specific to the problem and science at hand, assumptions of behavior in that stylized world, a typical assumed “order of the game” (e.g., Manufacturer Stackelberg), and an optimization problem by one or more of the channel members. In many articles, the clear exposition of how these pieces are assembled, their careful description, and the derivation of results require great care, albeit these are no different goals than a good behavioral, decision-theoretic, strategy, or statistical paper should aspire to.

With that said, the purpose of this editorial is to propose a new standard for “analytical transparency” in the Tufte sense (Tufte 2001).<sup>1</sup> A current working paper, “Optimal Reverse Channel Structure for

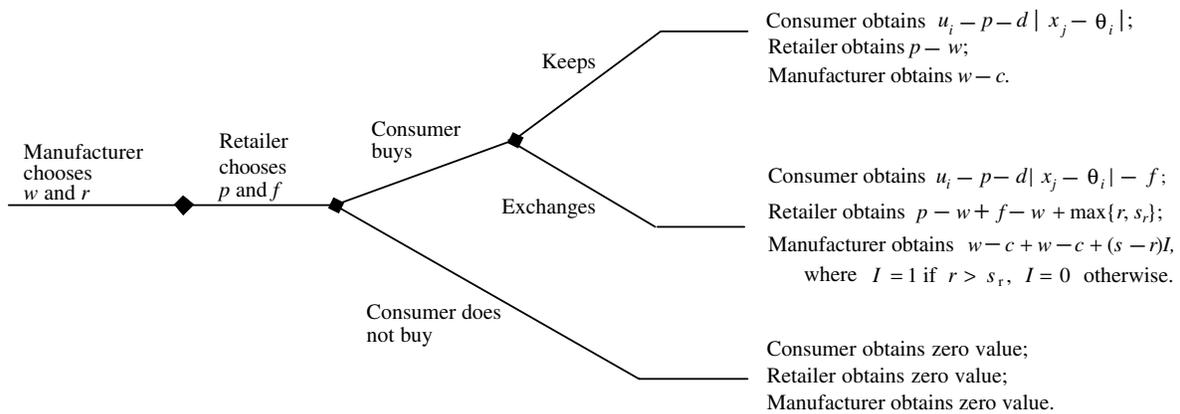
Consumer Product Returns” by Shulman et al. (2009), provides a nice demonstration of this proposal. In Table 1 below, Shulman et al. lay out both the parameters and decision variables that all of the “agents” in the paper use. This, centralized in one place and clearly defined, greatly enhances within-paper readability (i.e., for people currently reading the paper). Even more important is Figure 1, which lays out in a decision-tree graphic the order of the game, the available decisions, and the payouts to the different agents in a structural (preoptimization) form. Not only does this summarize things nicely as any good graphic should, but it provides the analytical transparency needed for someone to compare and contrast the work to existing literature, understand the assumptions that are made and their mapping onto the problem being solved, and determine the sets of problems for which the general framework described can (and cannot) be applied.

**Table 1 Parameters and Decision Variables**

Symbol	Definition
$c$	Manufacturer's marginal cost of product
$s$	Manufacturer's salvage value of a returned unit (net of costs)
$S_r$	Retailer's salvage value of a returned unit (net of costs)
$d$	Consumer disutility per unit of deviation from match with preferences
$u_i$	Consumer $i$ 's reservation utility for perfect match
$x_j$	Location of product $j$
$\theta_i$	Consumer $i$ 's ideal taste parameter
$p$	Retail price
$f$	Retailer restocking fee (including any shipping cost paid by consumer)
$w$	Manufacturer wholesale price
$r$	Retailer's net refund (refund paid by manufacturer minus shipping costs paid by retailer)

<sup>1</sup> Tufte believes that “The commonality between science and art is in trying to see profoundly—to develop strategies of seeing and showing” (Zachry and Thralls 2004, p. 450), and “effective analytic designs entail turning thinking principles into seeing principles” (Zachry and Thralls 2004, p. 450).

Figure 1 Sequence of Events and Payoffs



As with all proposals and recommendations, authors should and must take them “cafeteria style” (take the ones you like and discard the others). Our belief is that this one “is a keeper” and will enhance the potential impact of analytical work while simultaneously making its evaluation through the review process easier. Equally important, the papers that use such graphics are likely to have a bigger impact on doctoral training and future research.

## References

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