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214 Business Building

10:00 am - 11:00 am

Title: Anatomy of a Newsvendor Decision: Observations from Verbal Protocol Analysis

Abstract: This paper reports the results observed in the information gathering and analytical efforts of subjects involved in a newsvendor decision. Previous research in this area has identified significant biases in such a decision making process, but failed to capture the thought processes that may be behind the bias. To overcome that deficiency, we used the "think-aloud" approach and recorded the thought processes that led to the subjects' eventual decisions. A protocol analysis of the transcripts revealed the following interesting insights.

Most of the decision makers sought the very basic information, but failed to seek the additional, but non-trivial, information that could have significantly impacted their decision. A majority of the subjects struggled to deal with the abstractness of the business setting and were very keen to know information on the product type, industry setting, decisions taken in the past, competitor's situation, vendor environment that would have put them on a firmer footing. A large portion of the participants correctly identified the overage and underage costs that must be considered, but failed to convert that information into the optimal order quantity, which suggest that the mathematics involved is not as intuitive as commonly perceived. Finally, the bias of the order quantity was significantly impacted by the risk (overage or underage) identified closer to the decision making time. That is, if a subject first mentioned the risk of excess inventory followed by the risk of unsatisfied demand, then his/her order quantity was high. On the other hand, if a subject first mentioned the risk of unsatisfied demand followed by the risk of excess inventory, then his/her order quantity was low.

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