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# Risk Behavior in Response to Quotas and Contests

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## Abstract

Much of the salesforce compensation literature has focused on developing incentive schemes to maximize effort levels on the part of the salesforce. The amount of effort to expend in the selling task is considered to be the sole decision variable for a sales representative. In this paper, we introduce another key decision variable for a sales representative which is how much risk to undertake in the selling task. In other words, we consider the fact that for a sales representative "riskiness" of performance (e.g., the dispersion of the probability distribution for sales) is often a choice and not a given fate. For example, a sales representative, trying to increase sales, may have the choice of allocating a given amount of effort on the low-risk approach of pursuing a small set of existing customers or incur the same effort on the high-risk option of getting new larger customers to switch from competitors.

This paper examines how decisions on risk behavior on the part of the sales representatives are influenced by compensation schemes. We show that such decisions are sensitive to the payoff structure when a quota-based or a rank-order contest-based compensation scheme is used. More specifically, we argue that a high quota level or a rank-order contest where only the top few win induce sales representatives to opt for high-risk prospects, whereas a low quota level or a rank-order contest where a high proportion win induce sales representatives to opt for low-risk prospects. This does not stem from any kind of violation of standard expected utility theory but arises from the specific structure of jumps in payoffs. It is not that the inherent risk attitudes of the sales representatives are being altered. Rather, under some quota and contest conditions, a more risky prospect may yield higher expected utility for an inherently risk-averse sales representative while under some other quota and contest conditions, a less risky prospect may lead to a higher expected utility for an inherently risk-seeking sales representative.

The theoretical propositions are tested in a series of five experiments. The first two experiments test the theoretical

results of quota-based compensation. The quota levels are manipulated. Subjects select between segment types where the mean expected sales are the same but the variance varies. The next two experiments test the risk behavior of subjects in contest-based incentive schemes when the proportion of winners in the contest is manipulated. The results provide strong support for our models, with only a few subjects departing from the theoretical predictions. A fifth experiment shows some cognitive response data to explain the behavior that is inconsistent with the theoretical predictions.

This paper provides implications that are useful for managers who design compensation schemes. A common assumption in most normative models on salesforce compensation is that all sales representatives are either risk averse or risk neutral. This might often lead to the conclusion that sales representatives cannot be expected to engage in high-risk activities in the absence of a risk premium over and above the compensation scheme. While this may be true if sales representatives are facing only a piece-rate compensation plan, it need not be the case when quota-based or contest-based compensation schemes are used. Our results suggest that when the sales quotas are set "high" or if the proportion of winners in a sales contest is "low", sales representatives may engage in high-risk behavior. Alternatively, if the quotas are "low" or the proportion of winners in a sales contest is "high", sales representatives may engage in low-risk prospects. Hence, if a firm would like to dampen high-risk behavior on the part of the salesforce, lowering quota levels or increasing the proportion of winners in sales contests might do so. Similarly, in order to reduce conservatism towards risk, moving up the quota levels or reducing the proportion of winners in sales contests could be useful.

Our results extend beyond just salesforce management, to any situation where payoffs are based on reaching a certain threshold level in performance or are based on relative performance. For example, similar implications hold in tournaments for promotion to a limited number of top management positions in an organization, influencing the portfolio of R&D managers, and so on.

*(Quotas; Risk Taking; Sales Contests; Salesforce Compensation)*