

THE EFFECTS OF A SALESPERSON'S UTILITIES ON OPTIMAL  
SALES FORCE COMPENSATION STRUCTURES  
IN UNCERTAIN ENVIRONMENTS

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Research-in-Progress Abstract

It has long been held that monetary rewards are the most effective way to motivate salespeople (Ford, Churchill and Walker 1981). Unfortunately, there is no general agreement concerning the level, frequency, and determinants for the distribution of this money. A majority of small business owners contacted in a recent survey report that their sales compensation plans fail to adequately motivate salespeople. A near majority report that the plans overpay poor performers (Ricklefs 1990). While most practitioners and researchers agree that a well designed plan should be good for both the company and the salesperson, the goal of defining such plans in a broad spectrum of market conditions has been rather elusive. However, poorly designed plans may not only prevent firms from reaching sales targets, but may also increase a firm's selling costs if it overrewards, or increase turnover if it underrewards.

Perhaps the biggest challenge facing compensation plans designers is in controlling the behaviour of a salesperson in the field. Salespeople typically work outside the office environment and are responsible for scheduling their work time. This requires plans which do not rely on constant managerial supervision for the distribution of the rewards. Salary, commissions and bonuses must be distributed in a way that automatically controls the behaviour of salespeople through some intervening mechanism, typically the level of sales. Following Farley's lead (1964), researchers have concentrated their efforts on determining optimal structures of remuneration components through analytical methods. These studies of optimal salesforce compensation policies typically rely on a set of oversimplified assumptions.

In this paper, a model of decentralized salesforce compensation is developed, wherein some of the classical assumptions are challenged: (1) salespeople are either risk prone or risk averse, (2) the relationship between sales effort and sales is stochastic, (3) firms and salespeople have different planning horizons, (4) the salesforce is heterogeneous, and (5) the problem is dynamic.

In addition, a simulation is used to investigate a wider range of conditions with a particular emphasis on salespeople's behavioral reactions to financial incentives. Research propositions focusing on the impact of a salesperson's utility functions on optimal salesforce compensation structures under various conditions are developed: (1) a salesperson's attitude toward risk, (2) degree of environmental uncertainty,

(3) a salesperson's preferences for leisure versus working time, (4) a salesperson's degree of preference for short versus long term revenues. The proposed approach is then illustrated with an empirical application. Response surface methodology (RSM) is used to optimize decentralized compensation policies over this set of simulated conditions. In the context of optimal salesforce compensation plan designs, RSM appears particularly promising because it performs "if-then" types of investigations. In other words, RSM locates optimal solutions through experimentation. During the first phase, the method of steepest ascent is used to reach the optimum region. Canonical analysis is then performed to characterize the optimal surface. In this study, response surface methodology analysis is applied for each simulated condition in order to locate the optimal compensation structure.

To assess the impact of a salesperson's utility functions on optimal compensation structures analyses of variance are performed to test the research propositions.

This study breaks away from much of the traditional research on optimal compensation schemes: (1) broader array of compensation structures can be examined with the proposed methodology, (2) the most restrictive assumptions can be challenged because of the innovative approach adopted, (3) the simulation methodology provides some preliminary evidence about decentralized structures and their determinants, (4) managers are provided with an operational procedure for deriving optimal sales compensation plans which can be routinely used for compensating the salesforce.

References

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