

Adaptive Aspirations in an American Financial Services Organization: A Field Study

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ABSTRACT

Pedagogical simulation (Lant, 1992) has shown that behavioral theories of organizational learning provide a robust description of the aspiration formation process. This study uses field data to test the attainment discrepancy model of aspiration adaptation. Results replicate Lant's (1992) findings and support extending the model to include performance comparison.

INTRODUCTION

One of the hallmark assumptions of behavioral models is that individuals and organizations learn and adjust their behavior in response to experience (March and Simon, 1958). In the behavioral theory of the firm, Cyert and March (1963) elaborated the basic behavioral assumption by calling attention to organizational learning. Levitt and March (1988) developed these assumptions into a model of organizational learning, in which behavior in organizations is goal directed, history dependent, and rule based. Lant (1992: 623) summarized these developments in the organizational learning literatures as follows: "Organizations have been modeled as goal directed systems that use simple decision rules to adapt behavior in response to performance feedback".

The role of *aspirations*, or goals, has been a critical part of models of organizational learning. Cyert and March (1963: 28) argued that "...most organization objectives take the form of an aspiration level rather than an imperative to 'maximize' or 'minimize' ". Aspiration levels are seen as a critical element in the cognitive processes leading to search, action and subsequent trial-and-error learning. The argument has been supported in related research that has found that positive and negative decision frames influence risk taking (Kahneman and Tversky, 1979; Tversky and Kahneman, 1981; Payne, Laughhunn and Crum, 1980; March, 1988; March and Shapira, 1992), behavioral change (Lant, Milliken and Batra, 1992), attributions for performance (Milliken and Lant, 1991; Clapham and Schwenk, 1991), and perceptions of the environment (Kiesler and Sproull, 1981; Starbuck and Milliken, 1988).

However Huber (1991) argues that while much has been learned about experiential learning, there has been little cumulative development of the empirical and conceptual work because researchers have tended not to use results from previous research to design and interpret their own research. Even within the relatively well developed research stream focused on aspiration adaptation, scholarship has centered on theory development (Cyert and March, 1963; Levinthal and March, 1981; March 1991; Mezias and Glynn, 1993), experiment (e.g., Glynn, Lant and Mezias, 1991) or pedagogical simulation (e.g., Lant, 1992). There have been few attempts to test the theory in organizational settings.

The present study seeks to address this gap in the literature by testing a specific model of aspiration adaptation, the attainment discrepancy model (Glynn, Lant, and Mezas, 1991; Lant, 1992). This study tests the attainment discrepancy model using field data on group goals, determined in the context of an American financial service organization's retail operations. According to the attainment discrepancy model, individuals and groups adapt their aspiration levels using a simple decision rule of adjustment to feedback on performance compared with aspiration level. The model can be summarized as:

$$AL_{i,t} = a_0 + a_1 AL_{i,t-1} + a_2 [P_{i,t-1} - AL_{i,t-1}] \quad (1)$$

where $AL_{i,t}$ is aspiration level for the i th person or unit in the current period, $AL_{i,t-1}$ is the aspiration level for that entity in the previous period, and $P_{i,t-1}$ is its performance in the previous period.

The present paper tests specific hypotheses from the previous findings regarding this model. In addition, we develop hypotheses regarding comparison of performance with a referent group and control for several effects that are likely to affect aspirations in a field setting. Results and discussion of the findings from the field data are presented in the last sections.

The Attainment Discrepancy Model

The attainment discrepancy model predicts that aspiration levels will be a function of at least two variables: previous aspiration level and actual performance during the previous period. The specific functional form shown in equation (1) was found by Lant (1992) to provide the best description of aspiration level adaptation. It models aspiration level as a function of previous aspiration level and attainment discrepancy, with a single period lag. In equation (1) attainment discrepancy, shown as $P_{i,t-1} - AL_{i,t-1}$, is equal to the actual performance of the of the i th unit or person minus the aspiration level for that entity. Thus, the model can be restated as follows:

$$AL_{i,t} = b_0 + b_1 * AL_{i,t-1} + b_2 P_{i,t-1} \quad (2)$$

where $b_1 * = a_1 - a_2$ and $b_2 = a_2$ from equation (1). In order to avoid having $AL_{i,t-1}$ enter the estimated equation twice, the parameter estimates in this study are developed using the model in equation (2). For purposes of comparison with previous results, we will restate the estimated parameters from equation (2) in terms of the parameters in equation (1) in the discussion.

On the basis of previous research findings (Lant, 1992; Glynn, Lant and Mezas, 1993), we expect to observe three results, summarized by our first three hypotheses.

H1: *The constant will be significantly greater than zero.*

H2: *The coefficient for goal in the previous period will be significantly greater than zero.*

H3: *The coefficient for performance in the previous period will be significantly greater than zero.*

Extensions of the basic model

Our principal extension of the basic attainment discrepancy model concerns the possibility that comparison with other like entities will affect the aspiration level. Cyert and March (1963:123), in their summary of the basic concepts, suggested an alternative mathematical model for aspiration adaptation which, in addition to the firm's own experience relative to performance in the previous period, introduces a term to summarize the experience of comparable organizations. Applied to model in equation (2), the idea of a comparison with referent others can be expressed in the form:

$$AL_{i,t} = b_0 + b_1 * AL_{i,t-1} + b_2 P_{i,t-1} + b_3 C_{i,t-1} \quad (3)$$

where $C_{i,t-1}$ is the change in performance of entities comparable to the i th person or unit during the previous period $t-2$ to period $t-1$. This formulation of the model thus suggests an additional hypothesis:

H4: *The measure of performance relative to that of referent others will have a significant effect on aspiration level.*

The field data

This study uses data from the quarterly performance reports of a large American financial services organization; 94 retail units are included for ten quarters from 1995 to 1997. Data on aspiration level (stated in terms of a unit goal) and achieved performance (stated as the actual unit result) was gathered for the volume of a particular product line. The retail units operate in two states of the USA, and are divided for management purposes into five areas.

Dependent variable

The model predicts a retail unit's goal in the current period, which is its current aspiration level. Goals for unit performance are determined by managers of the retail units and their immediate superior, through a process of negotiation within the organizational entity's dominant coalition (Cyert and March, 1963). In this respect unit goals are the result of a "continuous bargaining-learning process" (Cyert and March 1963:28). Moreover, they reflect a specific, satisficing aspiration rather than a general goal to maximize performance on the relevant measure.

Independent variables

The model predicts that a unit's goal in the current period will be predicted by the aspiration level in the previous period (Previous Goal) and performance in the previous period (Previous Balance). In addition, the model predicts an effect for the comparison with referent others. In the present study, unit managers are provided with feedback not only about their own unit's performance, but also about the performance of other units in their designated area and throughout the business unit. In light of the difficulty in accurately determining the boundaries of the referent group actually used by those involved in the negotiation of unit goals, we attempted to determine the question empirically using two possible definitions of the referent group. Within each definition, we also test theories of cognitive simplification using an alternative form of the comparison variable. Thus four variables were created to test the possible effect of comparison between an individual unit's performance and the median performance of other units in its referent group. First we defined the referent group to include all other retail units in the business unit; this is called Full Comparison. It was calculated by subtracting the median change in performance of all branches in the sample from

time $t-1$ to $t-2$, expressed as a percentage of performance at time $t-2$, from an individual branch's change in performance for the same period. We also included a measure that assumed that participants use a simplified coding of success or failure. This is a binary variable, called Simplified Full Comparison; it is coded 1 for values of Full Comparison greater than or equal to zero, and 0 otherwise. The management of the retail units in this study is broken for administrative purposes into five areas. Thus, we included two comparison variables that define the referent group in terms of the units within the focal unit's designated area. The first, called Area Comparison, uses the same method as detailed above to determine improvement or decline in retail unit performance relative to other retail units in its area. The second area variable, called Simplified Area Comparison, represents a cognitive simplification of that feedback to success or failure. Support for Hypothesis 4 is indicated if any of these variables have a significant effect on current aspiration level.

Control variables

Three possible effects for branch size and prior experience were controlled. First, we controlled for branch size. Second, we controlled for the tenure of the branch managers in the organization. Third, we controlled for the age of the branches.

METHODOLOGY

The pooling of data that is time-series *and* cross-sectional may create several estimation problems. In the present study we therefore expect to observe heteroscedasticity because variance in the error term may be a function of the branch, autocorrelation because the data is time series with a lagged dependent variable, and cross-sectional correlation because the data derives from units of the same company. Following Parks (1967), we used an estimation method that assumes a first-order autoregressive model for the error structure, with contemporaneous correlation between cross sections. The Parks estimation method, as implemented in SAS, enables correction for all three problems.

RESULTS

Results reported here relate to a measure of the volume of a financial services product. Six models were estimated. The regression results for each are shown in Table 1. First, the basic model predicts that current aspiration level will be a function of previous goal and previous balance. Hypothesis 1 suggested that the constant would be positive, reflecting an upward drift in aspiration levels. In Model 1 the constant is positive but not significant. Hypothesis 2 suggested that the goal in the previous period would have a positive effect on current aspiration level. This effect was measured by the variable Previous Goal, which was significant ($p < .001$) and positive as predicted. Similarly, Hypothesis 3 suggested that performance in the previous period would have a positive effect on current aspiration level. The variable Previous Balance measured this effect, which was significant ($p < .001$) and positive as predicted.

Model 2 introduced three controls to the basic model. In the estimation of this model, the constant is now significant ($p < .001$) and positive, as predicted in Hypothesis 1. Previous Goal and Previous Balance remain significant (both at $p < .001$) and positive, supporting Hypotheses 2 and 3. The three control variables are each significant at the level of $p < .001$. The effect of Branch Size has a significant, positive effect; Branch Age has a significant, negative effect; and Manager Tenure has a significant, positive effect.

Table 1: Summary of Results

| Variable | Basic Model | Controlled Basic Model | Full Comparison Model | Full Comparison (Cognitive Simplification) | Area Comparison Model | Area Comparison (Cognitive Simplification) |
|----------------------------|--------------------|------------------------|-----------------------|--|-----------------------|--|
| Intercept | 103185 (186482) | 549740 (3.34) | 746186 (498173) | 656020 (13.73) | 668487 (2.91) | 868763 (2.56) |
| Previous Goal | 0.51 (0.04) | 0.52 (1.84E-6) | 0.51 (0.05) | 0.50 (6.57E-7) | 0.51 (1.26E-7) | 0.51 (1.42E-7) |
| Previous balance | 0.51 (0.04) | 0.51 (6.23E-8) | 0.49 (0.04) | 0.51 (1.08E-7) | 0.51 (4.79E-8) | 0.50 (5.72E-8) |
| Full comparison | | | -125829 (1075482) | | | |
| Simplified full comparison | | | | -172772 (0.28) | | |
| Area comparison | | | | | -1142758 (0.35) | |
| Simplified area comparison | | | | | | -415875 (0.18) |
| Control variables | | | | | | |
| Branch size | | 1.52E-3 (7.00E-8) | 0.01 (0.01) | 1.43E-3 (2.58E-7) | 1.86E-3 (5.95E-8) | -5565.70 (0.08) |
| Branch age | | -5029.39 (0.11) | -18157 (13224) | * -5652.16 (0.30) | * -6414.94 (0.09) | 1333.82 (9.95E-3) |
| Manager tenure | | 1560.82 (0.01) | 6192.20 (4766.36) | * 1765.10 (0.02) | 1596.04 (3.55E-3) | -415875 (0.18) |
| R squared | 0.9987 | 0.9999 | 0.9988 | 0.9999 | 0.9999 | 0.9999 |

* P < .10 for rejection of null hypothesis

** P < .05 for rejection of null hypothesis

*** P < .001 for rejection of null hypothesis

Our third model introduces the first measure of performance comparison, using the continuous variable Full Comparison. As in the first model, the constant is positive but not significant, failing to support Hypothesis 1. The effects for Previous Goal and Previous Balance remain positive and significant (both at $p < .001$), maintaining the support for Hypotheses 2 and 3. Hypothesis 4 suggested that a continuous measure of performance relative to that of referent others would have a significant effect. This model tests the hypothesis operationally by using the continuous variable Full Comparison to reflect a performance comparison with all other retail units in the study. The effect of Full Comparison, although negative, is not significant, failing to support the hypothesis. The control variable Branch Size is not significant. Branch Age has a negative effect that is significant at the level $p < 0.1$. Manager Tenure has a positive effect that is also significant at the level $p < 0.1$.

Model 4 maintains the full comparison across all retail units, but assumes cognitive simplification of the performance feedback to a simple success/failure dichotomy, using the binary variable Simplified Full Comparison. In this estimation the constant is now significant ($p < .001$) and positive, as predicted in Hypothesis 1. The effects for Previous Goal and Previous Balance also remain positive and significant ($p < .001$), supporting Hypotheses 2 and 3. Hypothesis 4 suggested that a binary measure of comparative performance would have a significant effect. The hypothesis is supported in this model, with a significant ($p < .001$), negative coefficient for Simplified Full Comparison. The three control variables - Branch Size, Branch Age and Manager Tenure - are also each significant ($p < .001$) in the directions previously found.

Our fifth model tests the possibility that performance comparison occurs among a subset of retail units, defined in terms of the five administrative areas used in the company. Here the results for the constant, previous goal, previous balance, branch size, branch age and manager tenure remain as in Model 4: all significant ($p < .001$) and in the predicted direction. To test Hypothesis 4 in the context of a smaller referent group, the variable Area Comparison was used as a continuous measure of the difference between a unit's performance and the mean performance of others in its area. The coefficient of Area Comparison is significant ($p < .001$) and negative, providing support for Hypotheses 4 when referent group is operationalized as the administrative area.

Finally, Model 6 tests the effect of cognitive simplification of feedback about unit performance compared with others' in the area, using the variable Simplified Area Comparison to reflect a success/failure coding of comparative performance in each unit's area. Consistent with the previous model, Hypotheses 1, 2 and 3 were supported. Hypothesis 4 suggested that a dichotomous performance comparison within a branch's referent group would have a significant effect on current aspiration level. Operationalized in this model as a Simplified Area Comparison, Hypothesis 4 was supported with a negative coefficient for that variable that was highly significant ($p < .001$). Although the control variables remain significant ($p < .001$), the sign of each is reversed: Branch Size has a significant negative effect, Branch Age has a significant positive effect, and Manager Tenure has a significant negative effect. To check the robustness of these results, we used a second estimation method and two alternative measures of performance; these did not result in any substantial changes to the results.

DISCUSSION AND CONCLUSIONS

The most immediate conclusion from these results is the robustness of their support for the attainment discrepancy model of aspiration formation, across all formulations of the model. Consistent with Hypothesis 1, we found a positive value for the Constant, suggesting a tendency for aspiration level to rise independent of previous aspiration and previous performance.

Consistent with Hypothesis 2, we estimated Previous Goal to have a statistically significant coefficient between 0 and 1. This means that past aspiration serves as an anchor: in reaching their current aspiration level, retail units are influenced by their previous aspiration level, independent of performance. Consistent with Hypothesis 3, we estimated Previous Performance to have a statistically significant coefficient between 0 and 1. This means that aspiration level is also sensitive to past performance. In addition, the results suggest that an expansion of the attainment discrepancy model to include the effects of comparison with the performance of referent others is justified.

The results of the analyses presented in this paper contribute two things to existing research on aspiration level adaptation and decision-making. First, they provide the first field replication of results obtained in earlier studies, notably Lant's (1992) pedagogical simulation, using data drawn from an organizational setting. Second, the results of these analyses suggest support for an extension of the basic model of aspiration formation to include the effect of performance comparison. Results suggest that in the case of the organizational entities studied here, decision-makers are sensitive to past performance relative to other retail units in their administrative area. The results also suggest that information on comparative performance is cognitively simplified into a dichotomy of success or failure relative to median group performance. Of course, the existence and composition of a specific referent group is a matter to be determined empirically with respect to the particular organizational entity being studied. However these findings regarding the influence of feedback about comparative performance and process of cognitive simplification may be generalizable to other field settings, and should be investigated further in future research.

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