

# DECISION MAKING PROCESSES IN HIERARCHICAL TEAMS SUGGEST IMPLICIT ASSUMPTIONS OF EXPERTISE

Poornima Madhavan M.A., and Janet A. Sniezek, Ph.D.  
University of Illinois at Urbana-Champaign

## ABSTRACT

We examined the process of decision-making in a hierarchy of individuals where decisions were communicated through three Advisors and ended with a Judge. Expertise levels Ascended, Descended, or varied randomly (Alternated) up the hierarchy. Expertise of members was unknown in the Alternating structure. Participants in the Alternating structure behaved in a manner similar to the Ascending structure suggesting that status substitutes for expertise; the higher one is in the decision-making hierarchy the more one assumes the behaviors of a more expert member. Overall, results suggested that humans use implicit assumptions of expertise as decision-making heuristics when actual expertise is unknown.

## INTRODUCTION: JUDGE ADVISOR SYSTEMS

Social decision-making in organizations is often hierarchical in nature with advice transmitted across varying levels of expertise and positional power (Le Pine et al., 1997). The social process of decision making is captured by the Judge Advisor System (JAS; Sniezek & Buckley, 1995; Sniezek et al., in review), defined by role differentiation among the multiple parties who participate in the decision process. The correspondence between status and expertise can take many forms (Hollenbeck et al., 1995). In the present study, JAS structure was varied by assignment of persons to positions in the hierarchy according to their pre-existing levels of expertise. Advice flowed over Ascending (lowest to highest level of expertise) or Descending (highest to lowest level of expertise) structures. We tracked modifications in members' confidence and choice accuracy; comparisons were made between the two structures that delineated factors influencing decision-making in hierarchical groups.

## THE PURPOSE OF THE PRESENT STUDY

The purpose of the present study was to examine decision accuracy and confidence in the following JASs:

- (a) The **Ascending Structure** – the impact of less expert Advisors on the most expert Judge
- (b) The **Descending Structure** – the impact of more expert Advisors on the least expert Judge
- (c) The **Alternating Structure** – the impact of Advisors of unknown expertise on Judge of unknown expertise

## METHOD

(a) Participants: Students (n = 144) were assigned to one of three Judge-Advisor-Systems, each comprising teams of four members. The three system types (Ascending, Descending, Alternating) varied with respect to the *ordering* of the four expertise levels of members. In the Ascending structure, Advisor 1 had level 1 (least) expertise, Advisor 2 had level 2, Advisor 3 had level 3, and Judge had level 4 (highest) expertise. A reverse ordering was used for the Descending structure. Expertise levels were randomly ordered in the Alternating structure.

(b) Apparatus and Procedure: The task consisted of 70 two-alternative questions on business topics. Advice was allowed to pass through the system in the prescribed order only. We tallied choice accuracy and confidence of each team member.

## RESULTS

Accuracy displayed a trend upward from Advisor 1 to Advisor 3 regardless of structure, suggesting that when an Advisor disagrees and changes advice it is often for the better. However, the accuracy of Advisor 3 and Judge was in the direction *opposite* of improvement; Judges made thrice as many hurtful reversals of advice (27.1%) than Advisors (9.5%).

Confidence increased from Advisor 1 to 3 in all structures. However, the percentage of in the Descending structure Judges 61.5% Judges showed a *loss* of confidence relative to Advisor 3 while this was not the case for Ascending and Alternating structures.

Experts in the role of Judge (*Ascending*) were more accurate ( $M = .72$ ,  $SD = 1.5$ ), and confident ( $M = .83$ ,  $SD = 1.6$ ), than those in the role of First advisor (*Descending*) (accuracy:  $M = .61$ ,  $SD = .89$ ,  $t(23) = 3.38$ ,  $p < .01$ ; confidence:  $M = .78$ ,  $SD = .8$ ;  $t(23) = 1.49$ ,  $p = .09$ ). Novices in the role of Judge (*Descending*) were more accurate ( $M = .69$ ,  $SD = 1.5$ ) and confident ( $M = .79$ ,  $SD = .9$ ) than those in the role of First advisor (*Ascending*) (accuracy:  $M = .61$ ,  $SD = 1.2$ ,  $t(23) = 6.24$ ,  $p < .01$ ; confidence:  $M = .49$ ,  $SD = 1.6$ ;  $t(23) = 7$ ,  $p < .01$ ). Overall, the Alternating structure demonstrated a pattern of accuracy and confidence similar to the Ascending structure, while the Descending structure showed a pattern unique from the two.

## CONCLUSIONS

Most members accepted advice from underlings. Instances of rejecting correct advice and hurting accuracy were three times greater for Judges (27.1%) than for Advisors (9.49%). Advisors accepted advice more frequently than they rejected it. Judges did not contribute to improvements in accuracy across structures; Judge accuracy was lower than that of highest Advisor. Instances of Judges helping accuracy (8.1%) were significantly lower than Judges hurting accuracy (27.1%). The power associated with final decisional influence rather than mere differences in expertise seems to have induced greater rejection of advice. The Alternating structure exhibited a pattern of accuracy and confidence similar to the Ascending Structure, though they were unaware of actual member expertise. This suggests that implicit assumptions of expertise or status could substitute for lack of knowledge of actual expertise. Specific information about expertise levels should be provided in structures where status in the hierarchy is not directly proportionate to expertise. The study highlights the advantages of participative decision making and the disadvantages of using assumptions of position power as a decision heuristic when actual expertise is unknown.

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For more information contact: Poornima Madhavan, Aviation Human Factors Division, University of Illinois at Urbana-Champaign, #1 Airport Road, Savoy, IL 61874; [madhavan@uiuc.edu](mailto:madhavan@uiuc.edu); (217) 244-8904.