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An empirical investigation of escalatory strategic decision making: A prospect theory interpretation

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AN EMPIRICAL INVESTIGATION OF ESCALATORY STRATEGIC DECISION MAKING: A PROSPECT THEORY INTERPRETATION

by

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An Empirical Investigation of Escalatory Strategic Decision Making: A Prospect Theory Interpretation

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GRADUATE COLLEGE
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A between subjects experimental design was constructed to measure decision makers' reinvestment behavior in a sunk cost decision relative to an alternative choice and a reserve fund choice. The independent variables were responsibility, decision choice relative-risk, and decision return. The dependent variable was the amount reinvested to a sunk cost decision. Second order interactions of responsibility, relative-risk, and return were hypothesized.

Alternative relative-risks and expected returns were manipulated by responsibility to reflect the kinds of decision alternatives strategic decision makers face. As such, opportunity costs were built into the study, contrary to conventional escalate-or-withdraw designs.

Planned comparisons of responsibility/relative-risk reinvestment means were conducted at levels of decision return. These tests indicated that responsible and nonresponsible subjects alike took a conservative

reinvestment posture when they faced a risky reinvestment versus a conservative alternative choice in a low return state. In a high return state, responsible subjects escalated commitment to the sunk cost when they compared both decisions as low risk versus both decisions as high risk. In a high return state, nonresponsible subjects de-escalated when making the same comparison, however.

In a low return state the comparison of low reinvestment risk/high alternative risk versus high reinvestment risk/low alternative risk decision choices yielded significant de-escalation by both responsible and nonresponsible subjects.

These interactive differences indicate that the collective impacts of responsibility and relative-risk are influenced by level of return. An interaction of responsibility, relative-risk, and return was therefore demonstrated by planned comparisons.

These results contradict prospect theory predictions which maintain that decision makers will be risk-seeking in the face of negative feedback. Contrarily, subjects predominantly took a *conservative* posture when they analyzed marginal gains and losses from the perspective of partial loss recovery or when they analyzed marginal gains and losses from the perspective of complete recovery with potential gains. These results suggest the

future utility of approaching the escalation phenomenon from the perspective of risk-return perception.

DEDICATION

This dissertation is dedicated to my parents, Lawrence G. and Aurelia M. Poppler. Their many sacrifices and steady support have provided me with abundant opportunities for success. Their patience and understanding has been my foundation throughout my education.

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Introduction

Strategic Decisions vis-a-vis Escalation

It is widely held that rational and consistent strategy and policy formulation is fundamental to organizational performance (Andrews, 1980; Ansoff, 1965; Hofer & Schendel, 1978; Kotter, 1980). Formulation and implementation of such decisions guide the organization in development of resources and competencies. These steps are taken to achieve the aims set forth in management's hierarchy of missions, goals, and objectives which reflect decisions to pursue opportunities in the environment (Digman, 1990; Harrison, 1986; Miles & Snow, 1978). Strategy and policy become an "evolving pattern of decisions in the company that determines and reveals its objectives, purposes, or goals" within management's distinct effort to bring rational structure to the decision processes (Andrews, 1980).[1]

The nonrational escalation of commitment to a course of action is one decision arena wherein systematic and severe bias has negative strategic implications. This seems particularly important since strategic decisions are not discrete and independent but rather represent steps in an overall process designed to move the organization further toward a goal or a set of goals

embraced by the strategic decision makers (Andrews, 1980; Digman, 1990; Mintzberg, 1975; Mintzberg, Raisinghani, & Theoret, 1976).

A central tenet in organizational literature is that the organization's ability to respond to environmental change is a key determinant of its long term success. "It may be possible to better understand change or flexibility in the decision making by shedding light on those factors that promote resistance to change or inflexibility" (Brockner, et al., 1986). Escalation factors could impede flexibility and necessary change. Delineating factors that explain decision makers' tendencies to become committed may uncover some bases of flexibility, change, and innovation in decision making.

Many strategic decisions concern a series of choices rather than isolated decisions (Fredrickson, 1983; Hofer & Schendel, 1978; Mason & Mitroff, 1981; Quinn, 1980). Considering this, Fredrickson (1983) recommended that strategic process researchers adopt a decision making perspective as opposed to a planning perspective. Research also suggests that decision makers are prone to a particular bias when decisions are approached serially (Garland, 1990). For instance, Ross and Staw (1986) postulated that certain determinants of serially related

decisions shaped strategic alternatives pursued in Vancouver's decision to host Expo 86.[2]

Decisions based upon the utilities of previous choices means that sunk costs may not be "sunk" psychologically (Akres & Blumer, 1985; Staw, 1981). As in the case of Expo 86, honoring sunk costs in strategic decisions violates the tenets of rational decision making and produces strategically unsound results (Dawes, 1988).

Prospect theory (Kahneman & Tversky, 1979) offers an alternative to rational decision theory by offering an alternative model to the mechanics of choice. It also offers an approach to the escalation phenomenon which is not reliant upon a dissonance interpretation or an external justification interpretation (e.g., see Staw, 1976; Fox & Staw, 1979). Considering that several researchers have forwarded prospect theory as a viable model explaining escalation effects (Akres & Blumer, 1985; Northcraft & Neale, 1986; Whyte, 1986), a focus on risk perception (as opposed to justification) offers an opportunity to contribute to the literature.

Research Question

This distinction between a prospect theory interpretation and a justification perspective advances the following research question: *What contribution can a prospect theory interpretation provide for understanding the escalation phenomenon? Specifically, what are the higher order interactions of (a) responsibility, (b) risk, and (c) return in an investment situation which has escalation potential?*

Previous escalation studies have predominantly relied upon two variable designs. Moreover, such studies have designed a withdrawal option as the exclusive alternative to escalation. Escalate-or-withdraw scenarios, however, may be less prevalent in business decisions than are decision scenarios involving more than one means of recovering sunk costs (Schaubroeck & Davis, in press). Constructively replicating the effects of responsibility and risk while providing for a condition of return other than withdrawal should demonstrate higher order interactions among the variables while adding fidelity to established findings.

Research Design: An Overview

The simulation of more than one business alternative vis-a-vis a past decision more closely represents the cognitive challenges facing strategy makers (Das, 1986; Dutton, Fahey, & Narayanan, 1983; Fahey, 1981; Zajac & Bazerman, 1991). Secondly, incorporating levels of risk, levels of return, and levels of responsibility to emulate such cognitive challenges suggests the use of a factorial design.

Accordingly, the use of a between-subjects analysis of variance (ANOVA) design offers the most powerful approach in studying the differential effects of the independent factors on the dependent variable. An ANOVA approach also allows the researcher to conduct multi-factor tests of significance (F-tests). These tests allow for the estimation of interactive variable effects as well as main effects.

The pool of subjects from which a sample is drawn should be theoretically representative of the population to which the researcher wishes to infer (Cook & Campbell, 1979). For the purpose of comparative conclusions relative to previous studies, it is also desirable to use the kind of subjects such previous studies used.

With these considerations in mind, three sources of subjects were used for the analyses. One-hundred and

sixty-four Strategic Management/Policy undergraduate students (from five class sections of two universities) took part in this study. These subjects closely represent the kind of decision makers used in the vast majority of previous escalation studies. Also, they are of theoretical interest because they are completing professional management degrees. The study of Strategic Management/Policy integrates sources of specialized business knowledge. The business scenario instrument in this study closely emulates the kinds of decisions they will face in their management careers.

Thirty-eight Master of Business Administration students (MBAs) participated in the study. MBA subjects have professional undergraduate training and they represent a higher level of business specialization through advanced studies. Furthermore, the typical business graduate student will usually have more current practical business experience than the undergraduate.

Finally, thirty-eight full-time managers participated in the study. Twenty-seven of these were employed in insurance organizations, ten were University of Nebraska, Lincoln (UNL) program directors, and one was a plant manager. The thirty-eight participants represent a 63% response rate (sixty managers were initially contacted).

All subjects were randomly assigned to each of the treatment groups. As subjects became available over a period of four weeks, a continual effort was made to keep the number of respondents equal across treatment groups. This posed no problem for any type of subject because the subject groupings were fairly large (the average undergraduate class was thirty-four; the average graduate class was nineteen; the average management group was twelve).

Organization of the Remaining Chapters

Chapter two examines the relevant issues concerning the extant escalation literature. It also proposes that a prospect theory interpretation of escalation refines current theory by interpreting the behavior not only as a product of self-justification but (also) as a product of risk-perception relative to alternatives.

Chapter three details the logic of the study design (hypotheses, operational definitions, and measures). It also specifies a power analysis used to arrive at an acceptable sample and reviews the raw data obtained.

Chapter four details the study's findings and results. Chapter five provides interpretation, limitations, conclusions, and suggestions for future research.