

# **Half full or half empty: The effects of top managers' dispositional optimism on strategic decision-making and firm performance**

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## **ABSTRACT**

This study explores the effects of top managers' dispositional optimism on firm behavior and performance, and more specifically, the relationship between top managers' optimism and firm problem recognition, firm problem solving actions and firm performance. To test these hypotheses, surveys and other data from a strategy simulation game were analyzed. Results indicate that top managers' optimism positively influences problem recognition and problem solving actions, but unexpectedly, negatively influences firm performance.

## **Introduction**

To date, the effects of managerial optimism on strategic decision-making have not been researched by management scholars. Psychological researchers, on the other hand, have widely studied the trait of dispositional optimism and have found it positively influences a variety of individual behaviors and outcomes in various settings. This article intends to fill this gap between psychological and strategic management research.

A major reason why personality traits in organizations and strategy research has not been widely studied in strategy research is that many studies find that managerial personality traits (e.g., need for achievement, leadership, and overall affective disposition), at most weakly influence individual attitudes and behaviors within organizations (Mischel, 1968; Davis-Blake & Pfeffer, 1989; Peterson, Owens, Tetlock, Fan, & Martorana 1998). However, strategic decisions, are different from many organizational decisions because they are psychologically "weak" situations where available stimuli are numerous, complex, and ambiguous and decision-makers' choices vary greatly (Finkelstein & Hambrick, 1996). Therefore, these factors are likely to be influenced by personality traits and dispositions.

Strategy scholars have published a handful of studies that have found that managerial personality characteristics influence a firm's strategic decision-making. Empirical work on the personalities of top managers in corporations, for example, focuses primarily on the traits of locus of control (Miller, Kets de Vries, Manfred, & Toulouse, 1982; Boone & De Brabander, 1993), willingness to take risks and tolerance for ambiguity (Gupta & Govindarajan, 1984), need for achievement (Miller & Droge, 1986), tolerance for risk (Wally & Baum, 1994), and hubris (Hayward & Hambrick, 1997).

The personality trait, dispositional optimism, has been shown to positively influence a wide variety of individual behaviors in a number of domains (Peterson, 2000). Indeed, among all personality traits, dispositional optimism stands out in the psychology literature as contributing to almost entirely favorable outcomes. Dispositional optimism

as used in this study is a uni-dimensional trait on a continuum with optimism at one end and pessimism at the other end. Scheier and Carver (1985) define dispositional optimism as a *generalized* expectancy that good as opposed to bad outcomes will generally occur across important life domains. To date, there exists one study that examines the positive effects of optimism on individual managerial career success (House, Howard, & Walker, 1991) and one study that shows the positive effects of player and team manager optimism on professional baseball team win/loss records (Seligman, 1990). However, I find no studies in any field that examine the influence of top managers' dispositional optimism on firm behaviors, outcomes such as firm performance, or strategic decision-making.

Thus, this article addresses the proposition that top managers' dispositional optimism influences firm strategic decision-making and performance.

## **Hypotheses**

### Optimism and Problem Recognition

Problem recognition serves as the impetus for decision-making (Cyert and March, 1963). Problem recognition is the recognition of difficulties facing the firm. Research demonstrates optimists recognize more problems than do pessimists. For example, Scheier, Weintraub and Carver (1986) find optimism related positively to accepting the reality of the situation. In contrast, pessimism related positively to denying and distancing oneself from the problem. Additionally, Aspinwall, Richter and Hoffman (2001) cite studies (e.g., Aspinwall, 1998) that show optimists process information in a different and more beneficial manner than do pessimists. Specifically, "optimists pay more attention to negative information, remember more of it, and show evidence of greater elaborative processing of it, and rather than devoting attention to all of the information presented, optimists pay particularly close attention to the most useful information available. In contrast, pessimists often pay less attention to negative information, and they do not vary their attention to such information as a function of its relevance to the self or to other potentially important properties" (Aspinwall, 1998: 225). These findings have been supported in subsequent studies (Geers, Handley & McLarney, 2003.) Optimists therefore appear to gather and retain more information about self-relevant problems (Radcliffe and Klein, 2002.)

Aspinwall (1998) tests whether "optimism functioned as does denial or other defensive processes by assessing the prospective relation of optimism to attention to threatening information as a function of increasing severity or self-relevance" (Aspinwall et al., 2001: 225). She finds (1998) that an optimist's attention increases as the information became more threatening; a finding that suggests that optimism is adaptive in confronting negative information. Aspinwall and Taylor argue that people with "favorable expectations may be better able to process threatening information because they are less worried about their personal vulnerability" (1997: 424). In addition, Aspinwall et al. (2001) report that optimists tend to respond to difficulty with continued efforts to solve their problems, instead of denying the problems or wishing they would go away.

If top managers respond the same way as experimental subjects, optimistic top managers should recognize more problems than pessimistic top managers. This leads to the following hypothesis:

*Hypothesis 1: Top managers' optimism positively influences their recognition of firm problems.*

### Optimism and Problem Solving Actions

Optimism can also lead to superior problem solving through active coping. When optimists face adversity, they draw on a generalized sense of positive expectancies. In addition, contrary to expectancy theory, the scope of the expectancy is broad and imprecise. However, similar to expectancy theory, positive expectancies lead to increased effort in solving problems. Further, Aspinwall et al. find that "there is ample evidence across a wide range of stressors that optimists are more likely to engage in active coping and less likely to engage in avoidant coping" (2001: 234). Thus, optimists are more likely to react to problems by trying things, whereas pessimists will tend to react by denying or ignoring the problems. I posit that optimists will initiate more actions to solve problems than will pessimists. These arguments lead to:

*Hypothesis 2: Top managers' optimism positively influences problem solving actions.*

### Optimism and Firm Performance

The psychology literature contains extensive evidence that optimists perform better than pessimists across a range of situations. Peterson summarizes the literature on the benefits of optimism as follows:

"Optimism, conceptualized and assessed in a variety of ways, has been linked to positive mood and good morale; to perseverance and effective problem solving; to academic, athletic, military, occupational, and political success; to popularity; to good health; and even to long life and freedom from trauma. Pessimism, in contrast, foreshadows depression, passivity, failure, social estrangement, morbidity, and mortality" (2000: 44).

Optimism's benefits across such diverse domains suggest that there are additional pathways to optimists' success that involve more than just effective problem-solving. One such pathway may be optimists' tendency to explore and create opportunities instead of only reacting to problems.

Optimists are more likely than pessimists to put more effort into experimentation and exploration or the pursuit of new knowledge or things that are possible, but not yet known (Levinthal & March, 1993). Seligman (1990), for example, argues that optimists are open to new experiences and challenges. He asserts that expecting success or attributing failure to temporary or specific causes frees cognitive resources from further rumination and leads to a focus on new and unknown opportunities. These multiple ways optimism improves performance suggests that optimism may directly and positively influence performance. This leads to the following hypothesis:

*Hypothesis 3: Top managers' optimism positively influences firm performance.*

## **Methodology**

The hypotheses developed in this article are tested using a business simulation game and survey method. The simulation game employed is MARKSTRAT, which is used extensively for educational and research purposes. Experiential simulations such as MARKSTRAT, as opposed to other types of simulations, entail the interaction of people with or inside a simulated environment (Cohen & Cyert, 1975; Lant & Montgomery, 1992).

The MARKSTRAT simulation represents an industry where each company competes against each other company for multiple periods. The competitors choose to continue to produce and sell current products as well as to introduce new products and tap new markets. Competitors make many decisions including funding research and development projects, setting prices, advertising levels, sales force size, targeting distribution channels and ordering market research studies. The primary performance indicator is the stock market results of each company.

Simulation games like MARKSTRAT let researchers study dynamics. The participants make decisions and receive feedback over multiple time periods, which allows for longitudinal study. This is particularly important for the study of personality effects on firm behaviors as the generation of time series data allows the researcher to differentiate between a general optimistic disposition and the effects of performance feedback. That is, I am able to test the stability of top managers' dispositional optimism as measured both before and after the game.

The MARKSTRAT simulations planned for this study used a combination of executives and managers in master's degree programs, executives involved in a corporate training program, as well as MBA students at a top tier business school, all of whom had at least some work experience. The teams were therefore comparable in sophistication and ability.

The total number of participants was 194. The average age of the participants was 37 (the range was 26-57 and the standard deviation was 7.5) and 79% were male. The average number of teams in each of the seven simulations was 5 (the range was 4-6), while the average number of participants on each of the 35 teams was 5.5 (the range was 4-7.) The team assignments were not under the researcher's control, however, the teams appeared to be assigned randomly. The teams played the game for an average of 6 decision periods each (the range was 5-7.)

Optimism was measured with an instrument called the Life Orientation Test-Revised (LOT-R) (Scheier, Carver, & Bridges, 1994). An established body of evidence substantiates the reliability and validity of LOT-R as a measure of dispositional optimism. The LOT-R is a 10-item measure containing four filler items (the filler items were dropped here because several other items were added), three positively worded items, and three reverse-scored items. The three positively-worded items are: "Overall,

I expect more good things to happen to me than bad”, “I’m always optimistic about my future,” and “in uncertain times, I usually expect the best.” The reverse scored items are: “I rarely count on good things happening to me,” “I hardly ever expect things to go my way,” and “if something can go wrong for me, it will.” The items are scored using a five-point response scale ranging from “strongly disagree” to “strongly agree” with the negatively worded items reverse scored. The LOT-R was administered to each participant twice, once before the simulation and once afterwards. Cronbach’s alpha was .84 and the LOT-R test-retest reliability was .64. These results suggest that the LOT-R is fairly reliable.

Since the LOT-R measures individual optimism and the variable top managers’ dispositional optimism in this study is tested at the team level, the individual survey responses were aggregated to the team level. Top management team behaviors reflect both some aggregation of individual characteristics (e.g., the information available to the team includes the information available to the members), and some factors explicitly at the team level. Studies of the average age of team members, average organizational tenure, or average educational level take individual level variables (the age of individuals, organizational tenure, or educational level) and aggregate these to the group level (Bantel & Jackson, 1989; Wiersema & Bantel, 1992). In parallel to the use of average age or education, I will describe the level of optimism in a team as the average of its member optimism. The result of this technique is that the level of analysis for this study is at the individual level and not the team level. The unit of analysis, however, is at the team level.

For the problem recognition and problem solving actions measures, a single-item measure was constructed for each construct. Single item measures were used because respondents’ time was limited due to the constraints of the simulation schedule. Each participant answered the items individually, but the questions asked about the individual’s estimate of a team behavior. These items were averaged for each team to obtain a team score.

To assess whether aggregation to the team level was appropriate for the constructs of problem recognition, search, and problem solving actions, intra-class correlation coefficients to test within-team agreement were computed for each self-reported firm measure. A commonly suggested guideline for determining sufficient within-team agreement is an ICC of greater than 0 and a statistically significant ANOVA F-statistic (Kenny & La Voie, 1985.) All 21 measures used had a positive ICC and all but three were statistically significant at the 5% level (Period 3 search; Period 3 problem solving actions; and Period 6 problem solving actions). The results suggest that aggregation of the scores is appropriate.

To measure the problem recognition of each team, I aggregated the survey responses from each team member for the question “The simulation feedback showed our team faced many problems.”

Problem solving actions were measured by the survey question “Our team made few changes in the way we did things” (reverse scored.)

Common method variance or mono-method bias can be a problem when the independent and dependent variables are measured by the same method. Since three measures were collected using the same method, the Harman's single factor test (Podsakoff & Organ, 1986) was used to determine the extent to which correlations among the variables in this study may have resulted from common method variance. Common method variance could be a problem if either (1) one factor emerged or (2) one factor accounted for the majority of the variance among the variables (Flannery & May, 2000). The results indicate that neither condition was found (no single factor emerged or accounted for the majority of the variance among the variables), suggesting that common method variance did not explain the findings presented here.

There are three constructs, distinct from optimism, prominent in the strategic management literature that may directly influence the behaviors and outcomes proposed in this study. These three are used as control variables in all equations: task conflict, relationship conflict and trust.

Task conflict constitutes perceptions of disagreements among group members about the content of their decisions and involves differences in viewpoints, ideas, and opinions. In contrast, relationship conflict is the perception among group members of interpersonal incompatibility and typically includes tension, annoyance, and animosity among group members (Rau, 2001; Jehn, 1995). Task conflict generally has beneficial effects on decision quality while relationship conflict has exclusively negative consequences for the group (Jehn, 1995). Task conflict may improve the team's decision-making ability by increasing the number of perspectives to bear on the problem, which can affect the quality of decisions (Hambrick & Mason, 1984; Bantel & Jackson, 1989; Roure & Keeley, 1990; Murray, 1989). In a manner similar to the optimism, conflict can affect "vigilant problem solving," where groups are required to carefully survey their objectives, extensively search for information, and make contingency plans after selecting an alternative (Janis, 1989). Because task and relationship conflict influence information processing, these are included as control variables in all regression equations.

Mishra defines trust as "one party's willingness to be vulnerable to another party based on the belief that the other party is a) competent, b) open, c) concerned, and d) reliable" (1996: 265). Trust among team members may modify member interactions in such a way that the group as a whole will be able to draw upon the diversity of expertise fully available to it. Thus, trust may influence information processing and will be included as a control variable.

Each of the three control variables is measured by survey instruments validated in prior research on team decision-making. This study used Jehn's (1995) widely used four-item summative Likert-type scales to measure relationship and task conflict with the modifications to enhance clarity proposed by Simons and Peterson (2000). Trust was measured using a five-item summative Likert-type scale that has been developed and used successfully previously by Simons and Peterson (2000). All items were analyzed at the team level.

## **Results**

The proposed model is tested using the cross-sectional time series regression technique of a random-effects panel model. Using a random-effects panel model allows each observation to be independent despite multiple observations from the same firm. It also allows variation in the administration of the multiple simulations to be controlled for. Table 1 provides the descriptive statistics on the dependent and independent variables and the correlation matrix.

**Table 1**  
Means, Standard Deviations, and Correlations<sup>a</sup>

Variable	Mean	Std.dev.	1	2	3	4	5	6	7
1. Top Managers' Optimism	34.05	3.02							
2. Problem Recognition	4.48	1.26	.09						
3. Problem Solving Actions	3.92	1.14	.16	.21					
4. Task Conflict	13.92	4.36	-.09	.33	.06				
5. Relationship Conflict	11.05	4.58	-.17	.31	.03	.93			
6. Trust	24.28	2.03	.16	-.23	.04	-.47	-.60		
7. Stock Price	3.12	0.18	-.29	-.47	-.29	-.28	-.34	.32	
8. Stock Price Lagged	3.09	0.16	-.28	-.43	-.31	-.24	-.29	.29	.86

<sup>a</sup> There are 210 observations. Correlation coefficients greater than .12 are significant at the 5 percent level.

The variables top managers' dispositional optimism, problem recognition, and problem solving actions were standardized in all regression equations. Standardizing the indicators helps prevent computational errors by lowering the correlation between the interaction terms and their individual components (Aiken & West, 1991.)

Hypothesis 1 states that top managers' dispositional optimism positively influences problem recognition. The hypothesis is supported. The results reported in Table 2 indicate that top managers' dispositional optimism has a statistically significant effect ( $b = .14$ ,  $p = .03$ ).

**Table 2**  
Results of Regression Analysis of Problem Recognition, Search, Problem Solving Actions and Firm Performance<sup>a</sup>

Independent Variables	Problem Recognition	Problem Solving Actions	Firm Performance
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Top Managers' Optimism	0.14*	0.01*	-0.02*
Problem Recognition			-0.02**
Problem Solving Actions			-0.01
Trust	-0.05	0.03	0.00
Relationship Conflict	0.01	-0.02	-0.01
Task Conflict	0.06	0.05	0.00
Prior Year's Firm Performance	-2.01**		0.84**
R <sup>2</sup>	0.41	0.04	0.76

<sup>a</sup> For the analyses with Problem Recognition, n=175; for all other analyses, n=210.

\*p<.05, \*\*p<.01

As expected, prior year stock price percent change (the control for prior year performance) is negatively related to problem recognition ( $b = -2.01$ ,  $p = .00$ ). Supporting Hypothesis 1, in the context of complex strategic decision-making optimists recognize more problems.

Hypothesis 2 states that top managers' dispositional optimism positively influences problem solving actions. Results show that top managers' dispositional optimism has a significant and positive effect ( $b = .13$ ,  $p = .04$ ) on problem solving actions. Thus, Hypothesis 2 is supported.

Finally, Hypothesis 3 examines whether top managers' dispositional optimism directly influences firm performance. To test this hypothesis, stock price (the dependent variable) was regressed on top managers' dispositional optimism, problem recognition and problem solving actions. The equation also controlled for prior period stock price. Stock price was converted to a base 10 log. The results in Table 2 indicate that the coefficient for top managers' dispositional optimism is negative and statistically significant ( $b = -.01$ ,  $p = .03$ ). Therefore, contrary to Hypothesis 3, top managers' dispositional optimism is *negatively* related to firm performance. The results also indicate that two other parameter estimates are significant as well: problem recognition ( $b = -.02$ ,  $p = .00$ ) and prior year stock price ( $b = .84$ ,  $p = .00$ ). In other words, the higher problem recognition, the lower the performance; and the higher the stock price in the previous year, the higher the stock price in the current year. Finally, as in all the hypotheses tests in this study, the parameter estimates for the controls were statistically insignificant.

## Discussion



In summary, top managers' dispositional optimism affects firm behaviors and performance. In this section, the implications of the results, limitations of the study, and the contributions of the study to the field of strategic management are discussed.

Hypothesis 1, which states that top managers' dispositional optimism is positively related to problem recognition, and Hypothesis 2, which states that top managers' dispositional optimism is positively related to problem solving actions, are both supported. These results are consistent with previous studies that show optimists pay greater attention to problems, and accept the reality of problems instead of denying their existence (Aspinwall, 1998) and cope with problems more actively. This finding has implications for the strategy literature in areas such as environmental awareness, scanning, and strategic change, which all rely on the notion of managerial recognition of problems and problem solving actions.

Contrary to Hypothesis 3, top managers' dispositional optimism was negatively related to firm performance. The positive relationship between firm performance and problem recognition (controlling for prior performance) suggests that optimistic top managers are aware of the problems they face, but why optimists perform worse can not be explained by this study.

One possibility is that optimists take more risks, and in this context at least, risk taking leads to inferior performance. Recent research has shown that dispositional optimists take more risks in decisions involving investments and casino gambling (Felton, Gibson, & Sanbonmatsu, 2003; Gibson & Sanbonmatsu, 2004). These authors also suggest that many of the previously identified beneficial outcomes of optimists are contingent on the setting. For example, much of the research that has demonstrated the benefits of optimism has been undertaken in health related areas. Optimists' greater information seeking and active problem solving strategies likely lead to actions that ameliorate health problems because any actions taken in this domain are generally beneficial (exercise, taking medications, seeking expert advice). However, in a context such as financial markets, increased information seeking and action may result in more risk taking with more potential for inferior performance. Pessimist's penchant for withdrawal and disengagement, on the other hand, indicates a tendency to reduce risk taking. In the context of this study, high levels of risk taking could very well lead to impaired performance. For example, the designers of the simulation game warn instructors that too much risk taking in the game impairs learning. Learning from previous actions becomes difficult due to the complexity involved when rapid and large swings involving multiple decisions are taken simultaneously. This negative effect is likely present in many complex organizations as well. Future research should put greater emphasis on the influences of optimism in various contexts as well as exploring the effects of optimists' risk taking.

This study is subject to limitations. The study used self-reported data to measure problem recognition and problem solving actions, which may result in biased data because of differences in the way optimists and pessimists perceive themselves and their behaviors. In addition, the use of single-item measures for some of the variables may impinge on the respective construct validities. Another limitation is that the top management teams studied were not ongoing teams, but were teams during the simulation game only. The lack of team history may have created a weaker

psychological setting than would be found in actual ongoing top management teams (Carpenter & Golden, 1997). In addition, while nearly all of the participants in the study had substantial business experience, most were not top executives before the simulation. Thus, the results of the study may not be fully generalizable to top management teams in actual organizations.

### Research implications

These findings suggest a need to further explore the effects of dispositional optimism on strategic decision-making. The evidence suggests that top managers' dispositional optimism influences various firm behaviors as well as firm performance. In addition, the results indicate that dispositional optimism may affect firm outcomes differently from individual's outcomes. Further research identifying the role of context on the influence of dispositional optimism should provide answers regarding these differences.

### Managerial implications

Organizational procedures could be effective in altering non-adaptive behaviors of pessimists and optimists. For example, organizational interventions that induce organizational problem recognition could be applied to pessimists. If firms wish to encourage problem solving actions, organizational actions could be forced on pessimists. Further research should attempt to identify the causes of the negative association between optimism and firm performance. It may be possible to alter the organizational setting to prevent the specific deleterious behavior of optimists. Finally, if optimism can be learned as some have suggested (Seligman, 1990), organizations could benefit from attempts, where applicable, to increase managerial pessimism or optimism.

### **Conclusion**

This article provides the only test of the effects of top managers' dispositional optimism on strategic decision-making and firm performance. The findings suggest that top managers' dispositional optimism positively influences firm problem recognition, positively influences problem solving actions, and negatively influences firm performance.

In conclusion, the results highlight top managers' dispositional optimism as influential in the problem solving behavior and success of firms.

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