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VARIABLES ON THE MOTIVATION OF INDUSTRIAL BUYERS**

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This a working paper. Comments are welcome.

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THE EFFECTS OF DISPOSITIONAL AND SITUATIONAL VARIABLES ON THE MOTIVATION OF INDUSTRIAL BUYERS

This study explores the direct effects of self-esteem, risk preference, leader behavior, and formal authority system, and the indirect effects of self-esteem on extrinsic and intrinsic motivation for a sample of fleet managers. Self-esteem and risk preference are chosen as variables because they can be assessed by managers based on working with their employees. Leader behavior and formal authority system are commonly used situational variables in marketing research. Results reveal significant direct effects for self esteem on intrinsic motivation, significant indirect effects for self esteem on extrinsic motivation, and significant direct effects for situational variables on extrinsic and intrinsic motivation. Finding that both dispositional and situational variables have a significant and distinct effect on buyer motivation provides additional insight into the management of the purchasing function. Of particular interest is the finding that the efficacy of managerially controlled situational variables like leader behavior and formal authority system is affected by self-esteem. This finding suggests that purchasing managers should be sensitive to individual differences in self-esteem when making decisions on rewards and on the imposition of external controls on their subordinates.

Introduction

The industrial buying function is considered a boundary-spanning mechanism of the firm, charged with understanding and reconciling the interests of multiple organizations. Industrial buyers must often handle the demands and conflicting expectations of their customers (those generating material demands), suppliers, management, and their own standards. If we see buyers as boundary spanners that face conflicting demands in a manner similar to sales people, it is reasonable to think that work environment or *situational* variables affect buyer motivation in the same way they affect salesperson motivation (Kohli 1989; Tyagi 1985). Situational variable effects on buyer motivation have received some attention (Dion and Banting 1987; Hendrick and Ruch 1988), but within the context of the expectancy theory framework commonly used in marketing. In addition, personality or *dispositional* variables may also affect buyer behavior and motivation, often by affecting the individual's response to situational variables, and these variables have received minimal attention (Dion and Banting 1987).

The inclusion of dispositional variables in marketing motivation research has been criticized because they are managerially difficult to evaluate and manipulate (Cron, Dubinsky, and Michaels 1988). While it is true that dispositional variables are difficult to manipulate directly, we believe their levels are no harder to assess than those of situational variables given proper training, and we also believe it is important for purchasing managers to consider both dispositional and situational factors when motivating employees. Managers should be particularly concerned with how dispositional traits can alter the motivational efficacy of managerially controls over the work environment. Even if a manager cannot change employee personalities, he or she can change environmental factors to better fit the individual's disposition and possibly enhance her or his performance. Although dispositional variables effects on motivation have not been investigated in marketing, factors like self-esteem and need for clarity

have been shown to affect the relationship between situational variables and job satisfaction (Bagozzi 1980; Kohli 1989) and to have a direct effect on attitude toward the job (Arvey et al. 1989; Staw and Ross 1985). They have also been linked to buyer attitudes, behavior, and perceived performance (Dion and Banting 1987). The relationship of dispositional variables to job satisfaction and attitude toward the job cause us to think they can also be related to motivation, both directly and by affecting the impact of situational variables. The relationship also suggests that knowing more about the effect of dispositional traits on motivation can help purchasing managers to better motivate their employees.

This study intends to explore the concurrent effects of dispositional and situational variables on motivation by applying structural equation modeling to isolate the direct and indirect effects of dispositional variables, and the direct effects of situational variables, on buyer motivation. We begin with a discussion of the dispositional and situational variables used in the study and the proposed structural model. Next we discuss the methods and analytical techniques employed in the study. We conclude with a discussion of the results, future research implications, and some observations on the managerial relevance of both sets of factors.

Situational Variables

The relationship of situational factors to motivation has been widely discussed in the marketing literature (Anderson and Chambers 1985; Churchill, Ford, Walker 1979; Tyagi 1982, 1985). All of these studies used the path-goal theory of leadership framework (House 1971; House and Dessler 1974), which we also use for this study.

Path-goal theory has two basic propositions. First, it proposes the functions of a leader are 1) to clarify the goals of subordinates and the paths leading to those goals in order to reduce role ambiguity and enhance subordinate satisfaction with work, and 2) to provide valued extrinsic rewards contingent on performance. Both functions are

intended to motivate subordinates. Second, path-goal theory suggests some of the specific forms of leader behavior to accomplish the motivational function are situationally determined and it proposes two dimensions that affect employee satisfaction: *leader behavior and environmental characteristics*.

Leader behavior has two sub-dimensions: leader initiating structure and leader consideration (House and Dessler 1974). Leader initiating structure consists of the level at which the leader provides direction in goal setting and process monitoring, and it can range from high (very specific directions) to low (very general and broad directions). Leader consideration involves assisting employees in achieving goals, responding to employee needs, being friendly, and promoting an egalitarian perspective in the organization. *Leaders can be considerate or inconsiderate*.

Environmental characteristics has three sub-dimensions: the individual's task, the formal authority system of the organization, and the primary work group. Since our sample comes from a population with similar tasks and similar work groups (all are fleet managers in medium to large companies), we only consider the *formal authority system* aspect of environmental characteristics. This is acceptable within the path-goal theory framework, which sees the three environmental sub-dimensions as independent and measurable individually. To measure formal authority system we use two dimensions of formalization proposed by Aiken and Hage (1968): job specificity and rule observation. Based on path-goal theory's implicit relationship between satisfaction and motivation, we suggest there is a possible link from leader behavior and formal authority system to motivation that merits exploration.

It must be noted that optimal levels for leader behavior and formal authority system vary with the functional nature of the job, so motivation enhancing leader behavior and formal authority for one type of job can be motivation reducing for another. For example, what enhances the motivation of a clerical worker may demotivate an entrepreneurially-oriented manager (Fiedler 1970). As mentioned

earlier, this study uses a relatively homogeneous sample of fleet managers. Having to respond to multiple constituencies (e.g., suppliers, fleet users, management), fleet managers face moderate to high levels of autonomy and responsibilities, and moderate to high levels of role ambiguity. Consequently, it is reasonable to think the managers would benefit from some externally imposed structure and managerial support.

We expect leader consideration to have a positive effect on motivation because leader intervention and assistance will reduce some of the insecurity sometimes associated with high levels of responsibility. Leader initiating structure and formal authority system are also expected to have a positive effect on motivation because they help reduce the role ambiguity associated with boundary-spanning activities, and found in positions with a wide range of demands.

Dispositional Variables

This study examines the relationship of two dispositional variables to motivation: self-esteem and risk preference. Self-esteem has been found to be related to satisfaction, reward valences, and motivation in marketing (Bagozzi 1980; Ingram and Bellenger 1983; Kohli 1989) and organizational research (Brockner 1988; Lawler 1969, 1970). Self-esteem is defined as the individual's evaluation of self and abilities. Risk preference (Litwin 1966) has been studied in the general context of achievement motivation, but not relative to job motivation. Risk preference is defined as the individual's risk seeking or risk avoidance tendencies.

Self-esteem and risk preference were chosen instead of other dispositional variables because they are easier for a manager to identify in employees than other personality traits. Supervisory contact makes it possible for a manager to assess if subordinates have relatively high or low global self-esteem and if they show risk seeking or risk avoiding tendencies in their decisions. Other dispositional traits (e.g., impulsivity and social comparison) are possibly also related to motivation but are harder to assess based

only on task related observation. Since most managers of organizational buyers cannot administer personality tests or have easy access to the results of such tests, it seems better to study the effects on motivation of dispositional traits that can be assessed from interaction with employees.

Self-Esteem

The essence of self-esteem is the favorability of the individual's self-evaluation, or how he or she feels about self. Brockner (1988) proposes two dimensions of self-esteem: specific self-esteem (self-evaluation based on a specific facet of life or a task) and global self-esteem (a synthesis of all the specific self-esteem assessments in an individual's experience). Brockner also suggests that both global and specific self-esteem are related to the person's overall attitude toward a set of behaviors or perhaps a specific role. Specific and global self-esteem do not always appear to be highly correlated, however, due to the complexity of their synthesis (Rosenberg 1979). The present study uses a global self-esteem measure because it is conceptually relevant across a wide variety of situations and more suitable for analyzing the diverse roles assumed by industrial buyers.

The effects of self-esteem on employee behavior have been researched extensively. In motivation research based on expectancy theory (Vroom 1964; Lawler 1969, 1970), self-esteem has been proposed to affect reward valences (Brockner 1988), expectancies (Lawler 1969, 1970), and reward instrumentality (Yukl and Latham 1978). Reward valence is the value placed by the individual on the reward. Expectancy is the expectation that effort will lead to successful task completion. Instrumentality is the expectation that rewards will follow from successful task completion. This study only considers valences and instrumentalities because the respondents are asked to make a global assessment of their work situation, for which asking the probability of effort resulting in completing specific tasks does not make sense.

Please note that although we refer to valence and instrumentality individually here and will do so again occasionally, the proper examination of the effects of any variable on motivation requires a test of its effects on the product of valences and instrumentalities. Expectancy theory is an evaluation model, and in models such as these the overall evaluation of a course of action is predicted by multiplying the likelihood of each of various outcomes (rewards) by the value of each outcome should it occur, and then summing across the outcomes. The expectancy theory of motivation (Lawler 1969) uses valuation calculated this way as a surrogate for motivation. In the rest of our discussion we will use the term *reward motivation* in reference to the product of valence and instrumentality¹. Also note that motivation research (Lawler 1970) separates motivation into that related to external or *extrinsic* factors and that which is more internal or *intrinsic* in nature. These two dimensions are also incorporated into this study.

Brockner (1988) has shown that high self-esteem individuals place higher value than low self-esteem individuals on feedback that confirms their self-evaluation. He has also shown that the attitudes of high self-esteem individuals are less susceptible to the influence of external factors and past history than those of low-self-esteem individuals. If rewards are seen as feedback for performance, it seems possible that reward valences of high self-esteem individuals will be higher and less susceptible to external factors than those of low self-esteem individuals. In addition, Yukl and Latham (1978) have shown that high self-esteem individuals have higher expectations that rewards will follow performance than low self-esteem individuals, so it is also possible that high self-esteem individuals will have higher reward instrumentalities. The higher reward valences and instrumentalities associated with high self-esteem suggest it will have a positive effect on motivation.

It also seems reasonable to expect, however, that self-esteem interacts with leader behavior and formal authority system, so that its primary effect on extrinsic reward

motivation is through situational variables while its primary effect on intrinsic reward motivation is direct. High global self-esteem, as discussed earlier, is associated with high valence for rewards that confirm self-esteem, and by association should lead to high self-esteem people being more aware and sensitive to the situational factors that make rewards possible. Since extrinsic rewards are more externally discernible and more often influenced by external factors, we can expect high self-esteem people to be more aware of external factors like leader behavior and formal structure than low self-esteem people. We expect, therefore, a positive direct relationship between self-esteem and intrinsic reward motivation, and a positive indirect relationship between self-esteem and extrinsic reward motivation through the sub-dimensions of leader behavior and formal authority.

Risk Preference

Using risk preference as a dispositional variable that affects motivation is based on the theory of achievement motivation (Atkinson 1966). This theory proposes that two related but non-equivalent motivations are found in individuals: the motivation to succeed (M_S) and the motivation to avoid failure (M_{Af}). The theory also suggests that one of these motivations is normally dominant in the individual. Dominant M_S individuals seek rewards that confirm the success they desire, and they consider rewards important. Dominant M_{Af} individuals, in contrast, seek to avoid failure and do not associate rewards with their actions to avoid failure, since they attribute success to the task being easy instead of to their own abilities. Consequently, dominant M_{Af} give rewards lower importance. The difference in the importance of rewards between M_S and M_{Af} individuals makes it reasonable to expect that dominant M_S individuals will have higher reward motivation than dominant M_{Af} individuals.

The connection of M_S and M_{Af} to risk preference was established by Litwin (1966), who showed that dominant M_S individuals performing a task choose targets that

put them at moderate risk to balance task challenge with the probability of success, while dominant M_{af} individuals choose targets with almost no risk or very high risk because they want either virtual certainty of success or to use the difficulty of the task as an excuse for failure. Given the nature of the sample used in this study (fleet managers with relatively high autonomy and responsibilities), we thought it safe to assume that choosing low risk targets would be socially unacceptable and that dominant M_{af} individuals would exhibit more risk seeking behavior than dominant M_s individuals. We expected professional norms to set a floor for risk-taking above what dominant M_{af} individuals would want, and that consequently they would follow high risk strategies to explain failure. Dominant M_s individual would in turn exhibit more risk averse behavior. Consequently, we expect high risk preference to be negatively associated with reward motivation for this sample since risk seeking preferences reflect dominant M_{af} individuals with low reward motivation.

Hypotheses

From our discussion of path-goal theory and the role of self-esteem and risk preference on motivation, we propose the following relationships, illustrated in Figure 1:

- Proposition 1: Leader consideration will have a positive effect on extrinsic and intrinsic motivation.
- Proposition 2: Leader initiating structure will have a positive effect on extrinsic and intrinsic motivation.
- Proposition 3: Formal authority system will have a positive effect on extrinsic and intrinsic motivation.
- Proposition 4: Self-esteem will have a positive direct relationship to intrinsic motivation.

Proposition 5: Self-esteem will have a positive indirect relationship through leader consideration, leader initiating structure, and formal authority system to extrinsic motivation.

Proposition 6: Risk preference will have a negative relationship to extrinsic and intrinsic motivation.

insert Figure 1 about here

Sample

The data for this study were collected from a population of transportation fleet managers for large and medium-sized companies in the context of a larger study of industrial buyer decision behavior. Transportation fleet managers are responsible for the acquisition of vehicles and fleet maintenance services, and face demands of multiple constituencies (e.g., suppliers, fleet users, etc.) which qualifies them as purchasing agents or buyers. The data were collected using a written survey mailed to 1000 fleet managers nationwide. The survey yielded 451 usable responses, for a response rate of 45%. More than 90% of the respondents have some college education and 65% are male. The average size of the fleets is 350 vehicles, and the average fleet management operation consists of five fleet professionals. Follow-up telephone interviews with a sample of non-respondents revealed no significant differences between the respondents and non-respondents. In addition, the characteristics of the sample (experience, education, position, etc.) were found to be similar to those of the National Association of Fleet Administrators membership.

Measures

The measures are summarized on Table 1. Self-esteem was measured using a 6-item scale of global statements developed for this study. Leader initiating structure and leader consideration were each measured using 6-item scales taken from House and Dessler (1974). Formal authority system was measured using an 8-item scale extracted from Aiken and Hage (1968). Leader behavior, job structure, and self-esteem all used scales with a 5-point format (1 = strongly disagree, 5 = strongly agree). Reward valences and instrumentalities used to calculate reward motivation were measured for six reward items ranked as most important by fleet managers in personal interviews. These are considered representative of rewards that buyers in organizations accept as goals: appreciation, financial compensation, respect from others, feeling of accomplishment, job security, and promotion. A constructed scale was used for measuring reward valences and instrumentalities. Reward motivations were calculated as the product of valences and instrumentalities. Reward valuations used a 5-point format scale (1 = very undesirable, 5 = very desirable). Reward expectancies used a 10-point format scale asking for a "chances in ten" assessment. For leader behavior, formal authority system, and self-esteem questions, the wording alternated between positive (e.g., my superior is congenial) and negative (e.g., my superior is aloof) to reduce habitual responses. The survey, including the risk preference measures explained below, contained 100 questions and took an average of 45 minutes to complete.

insert Table 1 about here

Risk preference was measured using a problem set of binary choices between a sure thing and a gamble developed by Huber and Puto (1985) and used by Puto (1987) and Qualls and Puto (1989). Respondents were asked to choose a preferred gamble

from each of three positive gamble pairs, each pair involving a choice between a sure thing and a probabilistic outcome. For example, respondents chose between saving \$5,000 for sure and a 50% chance of saving either \$10,000 or nothing at all. For some of the gambles, the value of the choices were not equal as in the example, but favored the gamble choice. The measure of risk preference is a composite sum of the three positive gamble pairs. The scale values consist of the frequencies with which a respondent chose a sure thing versus a probabilistic outcome. Individuals with high risk aversion would choose the sure thing even when the value of the probabilistic choice exceeded that of the sure thing. Risk prone individuals would be more likely to choose the gamble even when the value of gamble and sure thing choices were identical. This is a behavioral measure of risk preference which we considered more representative of the dominant M_{af} as proposed by Litwin (1966) than self-evaluation measures of risk preference.

Analytical Procedures

We used exploratory factor analysis to test the dimensionality of leader behavior, formal authority system, reward motivation, and self-esteem. Factor analysis was not appropriate, however, for the binary choice positive gamble items. Gamble items correlation was over .95, so the items were used as a composite measure. Factor analysis of leader behavior measures revealed the existence of two dimensions, leader consideration and leader initiating structure, which agreed with the dimensions found in previous research (House and Dessler 1974; Kohli 1989; Tyagi 1982). Results also revealed two dimensions for formal authority system: job specificity and rule observation (Aiken and Hage 1968). The self-esteem measures revealed a single dimension.

The use of factor analyses to confirm the two dimensions of reward motivation is common in marketing research because it is difficult to arbitrarily assign intrinsic and

extrinsic labels to rewards (Dyer and Parker 1975), and our study is no exception. Our data revealed two dimensions, extrinsic rewards and intrinsic rewards, as suggested by Lawler (1970). The classification of specific rewards in our study, however, differs from how the same rewards were classified in other studies. For example, we expected "respect" to have a higher loading on the intrinsic dimension (Cron, Dubinsky, and Michaels 1988), but it loaded on the extrinsic dimension along with "pay", "promotion", "recognition", and "security." These results led us to review the literature in order to ascertain if our results were isolated to our study or a common occurrence. We found that although the more abstract extrinsic and intrinsic dimensions have been empirically supported repeatedly (Cron, Dubinsky, and Michaels 1988; Sujan 1986; Tyagi 1982, 1985) there was considerable variation in the rewards used and in how some of the more qualitative rewards like "respect" or "recognition" were classified. The wording used to describe a reward and the context of the study seem to have an effect on the classification of some reward forms even when the intrinsic-extrinsic dimensions were evident. Because past research has focused more on the abstract dimensions and not as much on their concrete components, we retained the reward classifications that emerged from our analysis. We used pay, promotion, recognition, respect, and security to represent extrinsic reward motivation, and sense of accomplishment to represent intrinsic reward motivation.

We tested the proposed model (see Figure 1) using the Partial Least Squares (Wold 1982) in a step-down approach (Bagozzi, Yi, and Singh 1991). PLS was chosen because it does not have the strict multivariate normality requirements of LISREL (Joreskog and Sorbom 1984), and because it is more suitable to studies in which the emphasis is both on theory construction (exploration) and theory testing (Joreskog and Wold 1982; Fornell 1987).

The step-down approach proceeds in two stages. The first stage consists of a test performed on all dependent variable relationships, in this case reward motivation being

directly affected by both dispositional (self-esteem and risk preference) and situational variables (leader consideration, leader initiating structure, job specificity, and rule observation). This model is illustrated in Figure 2. If this test showed no significant relationships, the testing would stop. If instead the results show significant relationships (dispositional and situation variables affecting motivation) the second stage is implemented. The second stage consists of testing the indirect relationships while controlling for the direct relationships. In this case the second stage tests the indirect path between self-esteem and motivation through situational variables while controlling for the direct path from self-esteem to motivation. This model is changed by adding paths from self-esteem to the leader behavior and formal authority variables, illustrated as dashed lines in Figure 3. If the results of the second stage show the direct relationships remain significant, regardless of the significance of the indirect relationships, the results are not definitive and the indirect relationship hypotheses must be rejected. If, however, the direct paths becomes insignificant while the indirect paths are significant, we have support for the indirect relationship, in this case the effect of self-esteem on extrinsic motivation through situational variables.

insert Figures 2 and 3 about here

The step-down approach has a long history in testing multivariate relationships with more traditional MANOVA (Roy and Bargmann 1958), and has more recently been applied to experimental research using structural equation modeling (Bagozzi and Yi 1989). The advantage for this study of using a step-down approach with structural equation modeling is that it permits the testing of latent variables. MANOVA analyses are limited to manifest or observable variables.

The initial test of the model revealed several insignificant items which we eliminated, but a minimum of three measures per latent construct was maintained. Four items were used for self-esteem, job specificity, and rule observation. Three items were used for leader initiating structure. As explained in the section on self-esteem, expectancy theory demands we use the product of valence and instrumentality. It has been shown, however, that product terms of interval scale measures share an indeterminacy problem allowing accepted transformations to change the correlation between variables (Bohrnstedt and Goldberger 1969). Bagozzi (1990) has suggested that including individual multiplicative terms and their product in a regression equation results in a scale invariant coefficient for the product term and recommends using both individual and product terms as manifest variables in PLS analysis. Consequently, this study uses the valence, instrumentality, and their product term for all six reward items as manifest variables. Only if the product term loading coefficients are significant are the product terms acceptable as manifest variables. In our case, a significant product coefficient would indicate an effect on motivation. A non-significant product coefficient indicates no effect on motivation, but only on valences and instrumentalities.

An examination of the measurement model coefficients revealed the product terms for extrinsic reward motivation had significant weights relative to those of their valence and instrumentality. The product term for intrinsic reward motivation, however, was not significant. Consequently, our discussion will address the relationship between the valence and instrumentality factors for intrinsic rewards and the independent variables, but cannot be extended to apply to motivation. Discussing the relationship of extrinsic motivation to the independent variables is appropriate, however, because of the significant product terms.

Results

The coefficients reported on Figure 1 are standardized regression coefficients between the latent variables. The unbracketed values are the first step-down stage coefficients, and the bracketed values are the second stage coefficients. Most coefficients reported in Figure 1 are significant at .05 level based on jackknifing analysis (Tukey 1954)². Only self-esteem direct effect on extrinsic reward motivation at the second stage is not significant.

Effects of Self-Esteem

As expected, self-esteem was found to have a significant indirect effect on extrinsic reward motivation through situational variables, and a direct effect on intrinsic reward motivation. These results support propositions 4 and 5. The first stage results revealed a significant relationship between self-esteem and both dimensions of reward motivation, but the second stage results showed the relationship to extrinsic reward motivation was indirect since the direct path to extrinsic reward became non-significant. The relationship between self-esteem and the elements of intrinsic reward motivation remained significant at the second stage. The relationships between self-esteem and situational variables were expected since high self-esteem people (buyers in this case) are expected to be more aware and sensitive to situational factors that make it possible for them to achieve desired rewards. A positive relationship between self-esteem and intrinsic rewards was also expected, since it is reasonable to think that high self-esteem people have higher instrumentality than low self-esteem people for rewards that are self-administered. In our case, they put a higher value on experiencing a sense of accomplishment from completing the task than low self-esteem people. The role of valence (as against expectancy) is revealed in the measurement coefficients from the PLS analysis. Valence was the only significant measurement variable for intrinsic rewards.

The indirect effects of self-esteem on extrinsic reward motivation are important. The relationship of situational variables to motivation as discussed in the literature is unidimensional and in a positive direction (Anderson and Oliver 1987; Becherer, Morgan, and Richard 1982; Cron, Dubinsky, and Michaels 1988; Tyagi 1982, 1985). Our results suggest that global self-esteem can alter the effects of these variables on extrinsic and that managerial action does not affect motivation in a vacuum but can be facilitated or hindered by the individual's self-esteem. It also suggests the net effect of managerially controlled variables is more predictable when the individual's self-esteem has been properly assessed.

Direct Effects of Leader Behavior and Formal Authority System

Leader consideration, leader initiating structure, rule observation, and job specificity had similar effects on extrinsic reward motivation and all in the expected direction. All four of these situational variables showed a positive and relatively stable (little change from stage 1 to stage 2 results) to extrinsic reward motivation. These same variables also had positive effects on intrinsic reward motivation, but they were not as similar because of the relative changes in the coefficients between the first and second stage. Leader consideration and leader initiating structure effects on intrinsic reward motivation were larger and relatively more stable than those of rule observation and job specificity. The effects were nevertheless positive on both extrinsic and intrinsic reward motivation, and the results support propositions 1, 2, and 3.

The positive effects of both leader initiating structure and leader consideration on motivation have been discussed and supported extensively in the literature. They have been proposed to have direct effects (Tyagi 1982, 1985) and effects through role ambiguity and conflict (Cron, Dubinsky and Michaels 1988) by increasing expectations about 1) performance, 2) goal attainment, and 3) the receiving of rewards. In our

model, we believe instrumentalities increase as ambiguity is removed and they have the positive effect on reward motivation.

The weaker and less stable relationship of rule observation and job specificity to intrinsic reward motivation is possibly explained by the fact that the intrinsic reward motivation latent variable for our sample was primarily representative of the value given to a sense of self-accomplishment. It is reasonable to think that rule observation and job specificity, environmental controls on how buyers do their job and how well they observe rules, have little effect on the value of self-accomplishment for our sample. It should be noted that the relationships of leader consideration and leader initiating structure to intrinsic rewards are lower relative to their impact on extrinsic rewards, which gives indirect support to the more general idea that situational variables have an overall lower effect on intrinsic motivation. It should also be noted that it is the situational variables with an element of human interaction (leader behavior) that have a more stable and significant effect on intrinsic motivation. It seems reasonable that sense of self-accomplishment is more affected by situational factors in which the leader can encourage the buyer verbally and enhance the value of both extrinsic and intrinsic rewards.

Direct Effects of Risk Preference

The relationship between risk preference and reward motivation was relatively weak, although the structural coefficients were statistically significant. The effects were in the opposite directions from what was expected in proposition 6. Our original expectation was for a negative relationship between risk preference and reward motivation since high risk preference is associated with high motivation to avoid failure (M_{af}) and with lower reward valence and instrumentality. The positive relationship of risk preference to extrinsic and intrinsic reward motivation were not expected and are hard to explain. It is possible that risk-taking buyers have higher instrumentality for

rewards figuring that if they beat the system they are entitled to the rewards, but this is highly speculative. We also considered the possibility of a relationship between self-esteem and risk preference so that it was self-esteem that affected reward instrumentalities through risk preference, but found that the correlation between the self-esteem and risk preference latent variables was .026 and not significant. A more likely and pragmatic explanation is that the risk preference measure was not a good enough measure of the risk attitudes we would expect to be associated with reward motivation. The measure of risk preference used in this study is a behavioral measure in a contrived and artificial context, and might not capture the true risk preference buyers bring to the job.

Discussion

Overall, we achieved several of our objectives in this study. We explored the effects of dispositional and situational variables on motivation and the possibility that self-esteem has both direct and indirect effects on motivation. We showed the effect of self-esteem on intrinsic reward motivation elements is direct and positive, while the effect of self-esteem on extrinsic reward motivation is through leader behavior and formal authority system. The results also suggest the effects of situational variables on intrinsic motivation are primarily from those factors that contain an element of human interaction. Simultaneous testing of the relationship between dispositional and situational variables on the motivation of industrial buyers had not been done, and is in itself a modest contribution of this study.

These results are intriguing in that they suggest that self-esteem might affect the efficacy of managerially controlled motivators. Since self-esteem is not consistent across people, the effects of situational variables might not be consistent either. In addition, our results help address the call for empirical support of significant

dispositional direct effects and the simultaneous examination of dispositional and situational variables (Cron, Dubinsky, and Michaels 1988).

One additional contribution of this study is that it shows the efficacy of managerially controlled motivators on the purchasing side of marketing. Most marketing research on motivation has focused on sales personnel and the sales environment. The buying function is also important and merits attention: a boundary-spanning role in which individuals must balance the demands of multiple constituencies. We have in this study shown that leader behavior and formal authority system can have an effect on the motivation of buyers, and that this effect is affected by the buyer's self-esteem. This is useful insight for managers of purchasing areas.

The study does have some shortcomings, however, which limit its generalizability. One limitation is the probability of measurement noise. In a cross-sectional study it is possible that respondents interpret questions differently, making patterns in the data less discernible and reducing the reliability of the measures. Alpha coefficients for the data, in the .64 to .81 range, are relatively modest (see Table 1). The use of structural equation procedures, however, partially offsets this problem by isolating measurement error. Structural equation estimation algorithms are designed to use the variance common to both measures and cases in estimation. Variance caused by differences in interpretation between cases is isolated for each measure leaving only variance attributable to the proposed relationships between the latent constructs. The end result are path coefficients that are a more accurate representation of the true relationships between the latent variables.

Another limitation is the use of common methods in the measurement of all variables. Although multiple items were used for each construct, commonality of methods can have an inflating effect on the estimated coefficients. Being sensitive to this possibility, we used standardized results and limited our discussion to only relative comparisons.

Two other limitations are the use of a cross-sectional design and the potential exclusion of critical variables. Because of the cross-sectional design, our results must be seen as indicating relationships among concurrently measured variables and not as indicators of causality. The assessment of causality requires the use of longitudinal studies and experimental research, methods that are being used in marketing (e.g., Johnston et al. 1990) but have not been applied to buyer research. Longitudinal research is necessary in this area. The exclusion of critical variables is a possibility in this study given the relatively low percentage of variance explained by the model (28% of extrinsic motivation and 5% of intrinsic motivation). Examination of the residual covariance matrix, however, did not give any clear indication as to our having missed significant antecedents or relationships in our model that would systematically alter the relationships we did identify.

Conclusions

This study was done primarily to explore the relationship of dispositional and situational variables to the motivation of organizational buyers. The buying function has not received much attention from marketing research at the level of the individual, even though it is well recognized as having boundary-spanning importance. The motivation of buyers needs to be a concern to marketing managers as competition makes the purchasing function more critical.

At a more basic level, it is also important to assess the relationship of both dispositional and situational variables to motivation. Although it is intuitively accepted that individuals' dispositional traits affect the effectiveness of managerial attempts to motivate them, the interaction of dispositional and situational variables and their concurrent effects have not been studied. This study looks at two dispositional variables: self-esteem and risk preference. Additional research involving other

dispositional and situational variables seems necessary, particularly if the renewed interest of employers in personality testing escalates (Moses 1991).

Combining a large sample, structural equation modeling, and a set of variables that can be realistically assessed by purchasing managers, we were able to empirically test the proposed relationships and satisfy our objectives. We found confirming support for the effect of situational variables like leader behavior and formal authority system on the extrinsic and intrinsic reward motivation of buyers. Even more important, we found evidence that self-esteem has a positive effect on motivation, a direct effect on intrinsic motivation and an indirect effect on extrinsic motivation. These results suggest that purchasing managers should be sensitive to individual differences in self-esteem when seeking to improve or maintain buyer motivation. This is an intuitively appealing notion, that had nevertheless not been systematically explored in marketing research.

End Notes

- 1 The portion of the expectancy model we consider is $V(P \rightarrow O)$, where V is the valence of reward O , and $(P \rightarrow O)$ is the expectancy that achieving P level of performance will result in reward O .
- 2 Jackknifing is a technique designed to test simultaneous equation systems. In the PLS algorithm it works by excluding a portion of the sample, estimating the parameters based on the balance of the sample, and then predicting the values of the excluded cases from the estimates generated. This exclusion, estimation, and prediction sequence is done a number of times, each time accumulating a measure of the accuracy of the predictions. Once the specified number of iterations are completed, the standard error of the estimate for each structural parameter is calculated based on the predictive performance, allowing the determination of at least a .05 significance level (Lohmoller 1984).

TABLE 1
Measure Reliabilities

Construct	Examples	Alpha
Leader	My manager makes working on job more pleasant.	.73
Consideration	My manager treats me as his (her) equal. My manager is friendly and approachable. My manager decides what shall be done and how it shall be done. My manager leaves it to me to develop my own ways of doing my job.	
Leader	My manager helps me overcome problems which hinder me	
Initiating	in carrying out my responsibilities.	
Structure	My manager rarely puts suggestions made by the group into operation. (R) My manager does not let me know what is expected of me. (R)	69
Rule	I am constantly being checked on for policy, rules,	.64
Observation	and procedural violations. I feel as though I am watched to make sure I comply with company policies. I am allowed to make my own decisions without checking with anyone. I know what my job responsibilities are.	

(R) = Reversed

TABLE 1 (continued)
Measure Reliabilities

Construct	Examples	Alpha
Job Specificity	<p>There is no specific policy rules manual relating to my job.(R)</p> <p>My duties, authority, and accountability are documented in policies, procedures, or job descriptions.</p> <p>There is a complete written job description for my job.</p> <p>I feel certain about how much authority I have on my job.</p>	.74
Self-esteem	<p>I have a positive attitude toward myself.</p> <p>I am not very self-assured about my skills and abilities. (R)</p> <p>I am a very self-confident person.</p> <p>I feel confident about my skills in almost any work situation.</p>	.77
Risk Composite	<p>Choice between \$30,000 savings for sure and 50% chance of \$60,000 savings or else nothing.</p> <p>Choice between \$3,000 savings for sure and 80% chance of \$4,000 savings or else nothing.</p>	NA

(R) = Reversed

TABLE 1 (continued)
Measure Reliabilities

Construct	Examples	Alpha
Extrinsic	Receiving more recognition for my effort.	.81
Rewards	Increased financial compensation.	
	Receiving more respect from other departments in this company.	
	Increased job security.	
	Promotion to a higher level position.	
Intrinsic	Increased feeling of worthwhile accomplishment	NA
Rewards		

(R) = Reversed

TABLE 2
Effects of Dispositional and Situational
Variables on Extrinsic Reward Motivation

<u>Independent Variable</u>	Stage 1 <u>Coefficient^a</u>	Stage 2 <u>Coefficient^b</u>
Self-esteem	.006	.001 (NS)
Risk Preference	.021	.021
Leader Consideration	.161	.163
Leader Initiating Structure	.199	.205
Rule observation	.110	.106
Job Specificity	.231	.227
 <u>Dependent Variable</u>		 <u>Multiple R²</u>
Extrinsic Reward Instrumentalities		0.28

a, b = p < .05 based on jackknifing analysis (Tukey 1954) except as noted (NS).

TABLE 2 (continued)

Effects of Dispositional and Situational Variables on Intrinsic Reward Motivation

<u>Independent Variable</u>	Stage 1 <u>Coefficient^a</u>	Stage 2 <u>Coefficient^b</u>
Self-esteem	.339	.186
Risk Preference	.050	.033
Leader Consideration	.066	.059
Leader Initiating Structure	.118	.144
Rule observation	.042	.024
Job Specificity	.037	.090

<u>Dependent Variable</u>	<u>Multiple R²</u>
Intrinsic Reward Instrumentalities	0.05

Intervening Variable - Self-esteem

<u>Dependent Variable</u>	Stage 2 <u>Coefficient^c</u>
Leader Consideration	.120
Leader Initiating Structure	.087
Rule observation	.220
Job Specificity	.216

a, b, c, = $p < .05$ based on jackknifing analysis (Tukey 1954) except as noted (NS).

FIGURE 1

PROPOSED EFFECT OF DISPOSITIONAL AND SITUATIONAL VARIABLES ON MOTIVATION

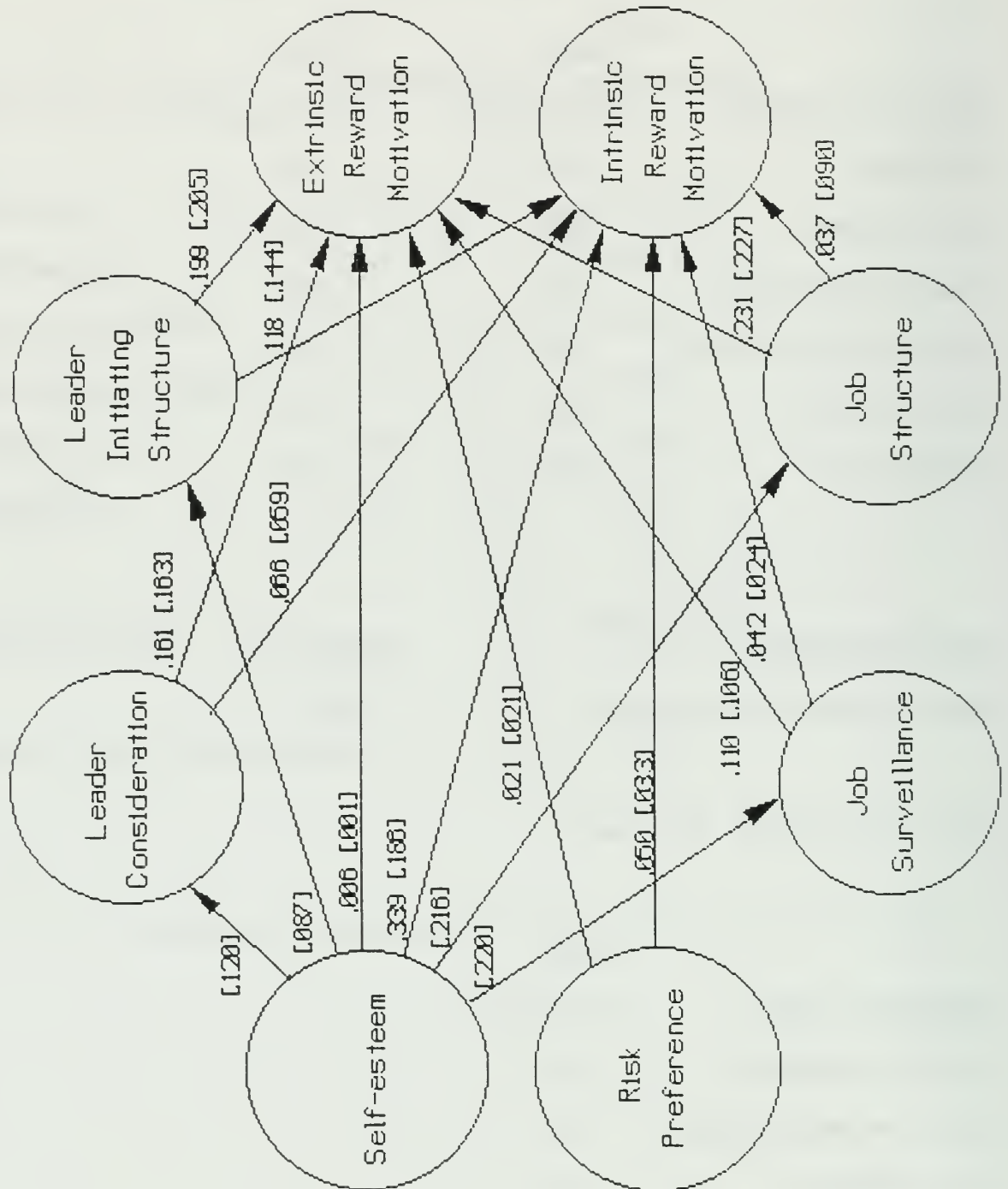


FIGURE 2

FIRST STAGE OF STEP-DOWN ANALYSIS
USING PARTIAL LEAST SQUARES

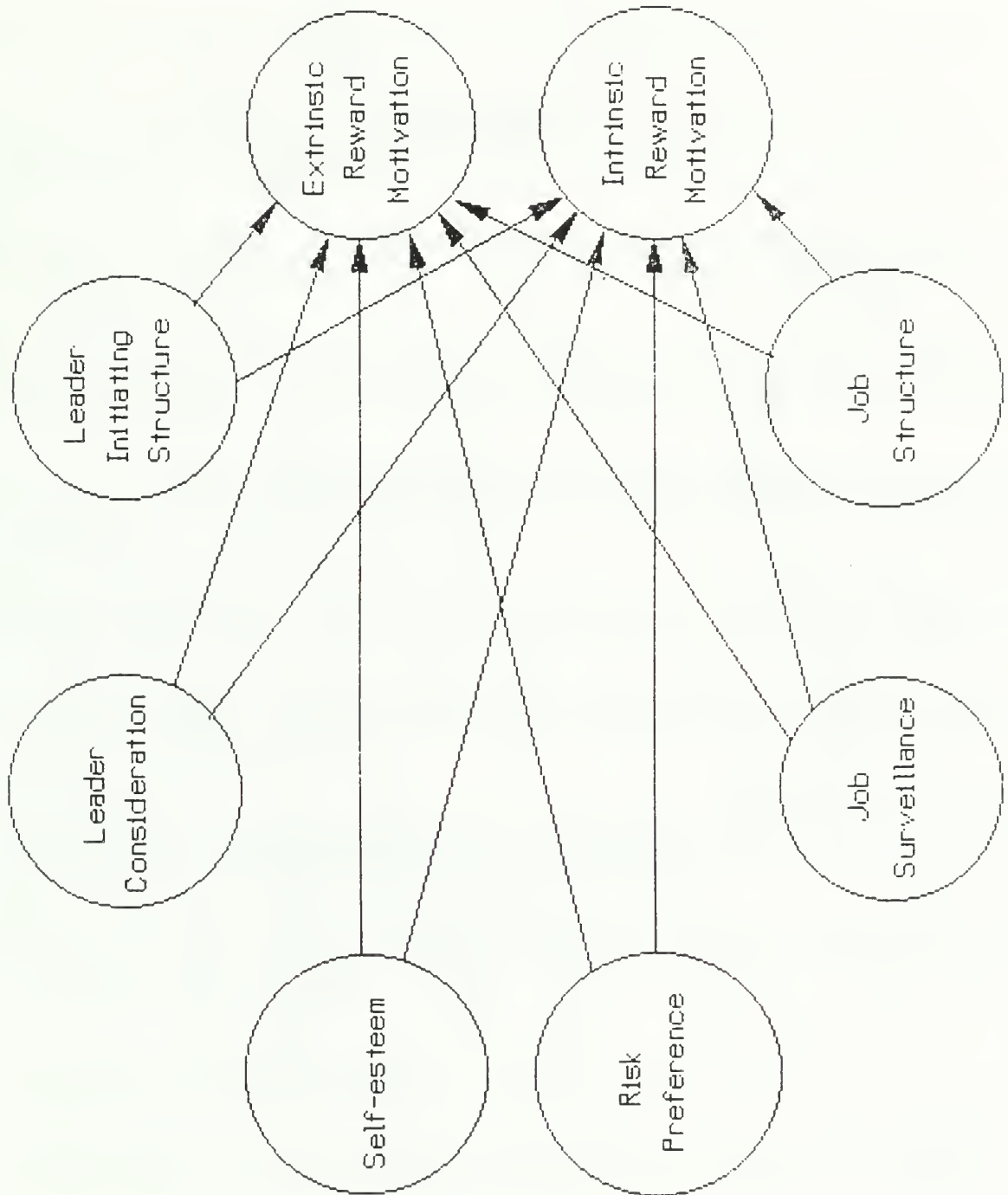
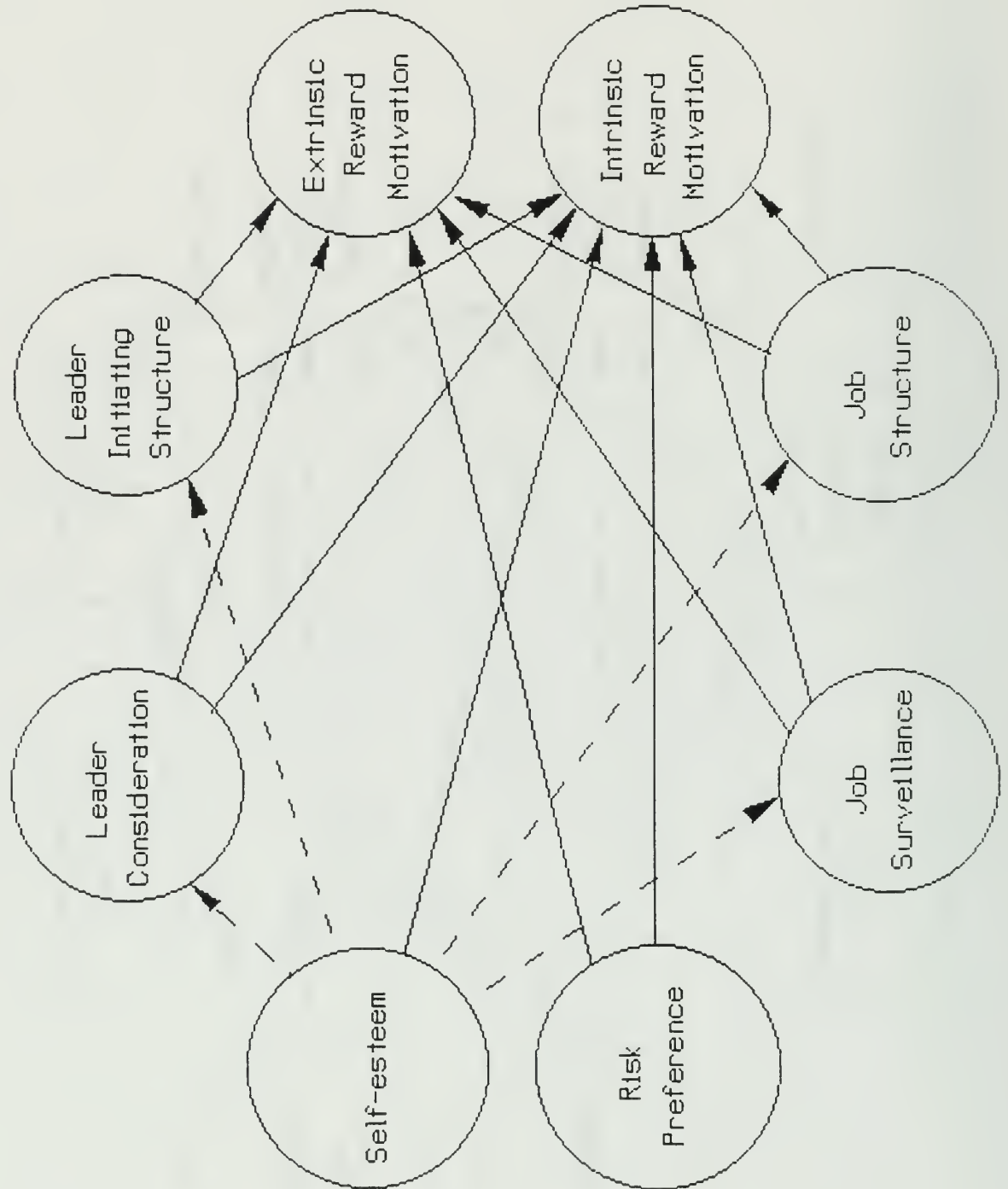


FIGURE 3

SECOND STAGE OF STEP-DOWN ANALYSIS
USING PARTIAL LEAST SQUARES



REFERENCES

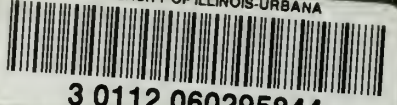
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