THE IMPACT OF INDIVIDUAL DIFFERENCES ON THE USE OF RISK REDUCTION STRATEGIES IN ORGANIZATIONAL PURCHASING

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Abstract

The purpose of this study was to determine the impact of individual characteristics of organizational buyers on the use of risk reduction strategies. The results suggested that years of formal education, gender, and CPM certification status all have major impacts on risk reduction strategy use. Conversely, years of buying experience and age were found to have relatively little affect on the propensity to use various risk reduction strategies.

Introduction

Virtually every organizational purchasing situation involves some degree of risk. Buyers must choose vendors, goods, and services even though they can't be completely sure as to what the ultimate impact of their decision may be.

This situation has provided the impetus for the revered "perceived risk" model of organizational purchasing. This particular model has shown itself to be a powerful explanatory mechanism (Cunningham, 1967; Hawes and Barnhouse, 1987) in explaining the behaviors engaged in by organizational buyers.

Implied in the perceived risk model is the notion that buyers prefer less risk to more. Consequently, they are likely to engage in behaviors designed to reduce the amount of risk inherent in the situation. This paper investigates the extent to which this risk reduction behavior is impacted by individual characteristics of the buyer.

Clearly, individual buyer characteristics are not the only factors capable of influencing organizational purchasing behavior. Nonetheless, recent buyer behavior models have consistently identified individual characteristics as critical components in the total structure (e.g. Webster and Wind, 1972b; Sheth, 1973). As observed by Webster and Wind (1972b):

> in the final analysis, all organizational buying behavior is individual behavior....the individual is at the center of the buying process (p.18).

Consequently, an analysis of the nature presented in this paper is appropriate and consistent with recent purchasing thought.

Background

Perceived Risk

Bauer (1960) first addressed the perceived risk concept when he proposed that consumer behavior could be viewed "as an instance of risk taking". He maintained that consumer behavior involved risk in the sense that an action will produce consequences which we cannot anticipate with certainty and which will in some cases be unpleasant.

Bauer was also quick to point out the difference between "risk" and "perceived risk". Risk may exist, yet if the individual doesn't perceive it they can't be influenced by it. Conversely, risk can be perceived, but be nonexistent. Individuals respond to and deal with risk as they perceive it subjectively.

Cox (1967) expanded on Bauer's work when he posited that the amount of perceived risk involved in a behavioral act is a function of:

1. The amount that would be lost if the consequences of the act were not favorable and,
2. The individual's subjective feeling or degree of uncertainty that the consequences would be unfavorable.

Additionally, Cox maintained that:

> The amount at stake is a function of the importance or magnitude of the goals to be attained, the seriousness of the penalties that might be imposed for nonattainment, and the amount of means committed to achieving the goals. The nature of the risk perceived should be a function of the nature of the buying goals involved. . . . The other major factor, which determines the amount of the individual's perceived risk, is her feeling of subjective certainty that the consequences of an act will be favorable. No matter how much she has at stake, if she feels "absolutely certain" that the consequences of her actions will be favorable, then from her point of view, the amount of risk is nil or almost nil. Conversely, when the amount at stake is held constant, the less certain the individual is that the consequences of her actions will be favorable, and the greater the amount of risk (p. 38).

Webster and Wind (1972a) extended Bauer's (1960) model into organizational purchasing and defined perceived risk as:

> a function of the buyer's uncertainty about the likelihood of occurrence of an event (which can be stated as a probability

between one and zero that the event will occur) and the consequences associated with that event if it should occur (p. 17).

As in the Bauer conceptualization, perceived risk was considered to have an uncertainty and a consequence dimension.

The uncertainty component is made up of:

1. Uncertainty about the reactions of others to his decisions, and
2. Uncertainty due to lack of information concerning expectations from the job and alternative courses of action (Robinson, Faris, and Wind, 1967).

The consequence component is also a determinant of the amount of risk perceived. Adverse consequences may arise from:

1. A product or vendor's failure to perform satisfactorily, and
2. The reaction of others to his decisions (psychosocial consequences) (Webster and Wind, 1972a).

Perceived risk has received a significant amount of attention in purchasing over the last three decades. Although the concept had its start in the consumer behavior context, it has been successfully extended over the years into organizational purchasing. What is clear is that perceived risk is capable of influencing the decision-making process and consequently behavior on the part of those making purchases (e.g. Peter and Tarpey, 1975; Choffray and Johnston, 1979; Hawes and Barnhouse, 1987). Additionally, the general consensus is that perceived risk is a phenomenon comprised of both uncertainty and consequence dimensions.

Risk Reduction

If high levels of perceived risk are viewed as an undesirable state, then it is likely that some effort will be made to reduce risk to an acceptable level. Cox (1967) contended that if the amount of perceived risk is a function of the amount at stake and the individual's feeling of certainty that loss will occur, then perceived risk reduction would involve:

1. Reducing the amount at stake, and/or
2. Increasing the feeling of certainty that loss would not occur (i.e. become more certain that the consequences of actions would be favorable).

In the organizational purchasing context, Webster and Wind (1972a) have identified four major classes of risk reduction strategies. These are:

1. Information acquisition and processing
2. Goal reduction
3. Loyalty, and
4. Investment reduction.

Information acquisition and processing is the most frequently used risk reduction strategy. As information is collected, the perceived risk is reduced as the range of possible outcomes is reduced. Goal reduction involves a lowering of standards for a particular situation. A buyer reduces risk by not taking chances and consequently may enter into acceptable, but not optimal, purchase agreements.

Loyalty is a risk reducing strategy that maintains goals at acceptable levels. Loyalty may extend to particular brands, products, or vendors. Investment reduction refers generally to the minimization of investment on the part of a buyer. This may occur through:

1. A reduction in the time and effort involved in the search
2. A reduction in the financial investment, and
3. A reduction in personal commitment to the buying situation.

Sweeney, Mathews, and Wilson (1973) have also examined the "dimensionality" of risk reduction strategies. In their work, they factor analyzed a set of 10 strategies and elicited the structure found in Table 1.

TABLE 1
SWEENEY, MATHEWS, AND WILSON'S (1973)
RISK REDUCTION FACTORS

FACTOR	LABEL	DOMINANT STRATEGY
1	External Uncertainty Reduction	2. Arrange for a visit to the supplier plant. 3. Investigate possible means of expediting the supplier's delivery commitment. 4. Seek top management commitment from the supplier.
2	Internal Consequence Reduction	6. Consult with own top management before decision. 8. Consult with own manufacturing people about rescheduling production.
3	Internal Uncertainty Reduction	1. Consult with buyers in other firms about their experience with the supplier. 5. Search for additional published information. 7. Negotiate a penalty clause in the supplier contract.
4	External Consequence Reduction	9. Negotiate with supplier for a better price. 10. Split the order between suppliers at some acceptable level.

External uncertainty reduction strategies require the industrial buyer to go outside of his or her own organization in order to reduce the uncertainty in the buying situation. Internal consequence reduction strategies

require the industrial buyer to stay within their firm in their attempts to reduce the seriousness of negative consequences. Internal uncertainty reduction strategies are attempts to reduce uncertainty and are those that can be initiated within the buyer's organization or buying community. External consequence reduction strategies generally involve some type of negotiation outside of the buyer's organization and would reduce the seriousness of negative consequences.

The research groups of Webster and Wind (1972a) and Sweeney, Mathews, and Wilson (1973) have both captured the scope of risk reduction strategies, but from different perspectives. As would be expected, these two taxonomies can be related to each other. For instance, Webster and Wind's "information acquisition and processing" strategies are typical of what Sweeney, Mathews, and Wilson would call "uncertainty reduction" (both internal and external) strategies. Likewise, Sweeney, Mathews, and Wilson's consequence reduction (both internal and external) strategies reflect Webster and Wind's "investment reduction" strategies.

Methodology

The questionnaire employed in this study presented a purchasing scenario to the respondent and then asked the extent to which they would make use of 10 risk reducing strategies. These ten strategies were the same as used in the previously cited Sweeney, Mathews, and Wilson (1973) study. "Extent of use" was measured on a six point scale with the terms "to a great extent" and "to no extent" anchoring the endpoints. Respondents were also asked to provide information concerning their: 1) length of employment as a purchasing professional, 2) gender, 3) age, 4) education level, and 5) whether or not they were a certified purchasing manager (CPM).

The research made use of case scenarios. Generally, this method has been well accepted in organizational buyer behavior research and, as evidenced by the number of studies using this approach (e.g. Krapfel, 1985; Crow, Olshavsky, and Summers, 1980; Puto, Patton, and King, 1985), is quite popular.

In an attempt to increase the generalizability of the study, not all respondents were exposed to the same scenario. Six different scenarios were employed with an equal number of respondents being exposed to each. The scenarios differed with regard to the buying situation (Cardozo, 1980) (product being considered was either a "custom" or "standard" product), and the relationship with the vendor being considered (Ford, 1980) (either nonexistent, developing, or well established). A manipulation check conducted with 186 members of the Twin City Purchasing Management Association insured that the scenarios were capable of creating the proper "setting" for each respondent.

Given the nature and quantity of information required in this study, a decision was made to employ a mail survey. The initial mailing included a copy of the research instrument, a personalized cover letter, and a coded, pre-addressed, pre-paid return envelope. A follow-up postcard was sent to all potential respondents five days after the initial mailing.

The sample was provided by the National Association of Purchasing Management (NAPM). From the 2,352 NAPM members who had listed SIC major group 36 as their firm's major activity, 1176 were systematically selected for the sample. Major group 36 includes those firms involved primarily with electronic and other electrical equipment and components and falls under the SIC manufacturing division (division d). 474 of the questionnaires were returned and usable yielding a response rate of 41%.

Results and Discussion

As an initial step in the analysis, five oneway MANOVA's were conducted. In each case, the extent of use scores for the ten risk reduction strategies were used as the dependent variable set. As independent variables, the respondents: 1) length of time as a purchasing professional (buytime), 2) gender (sex), 3) age (age), 4) education level (educate), and 5) CPM certification status (CPM) were used sequentially.

For the purpose of the analysis, the three continuous independent variables were dichotomized. This involved recoding the length of time employed as a purchasing professional ($\leq$ 10 years = new; > 10 years = old), age ($\leq$ 30 years = young; > 30 years = old), and education level (< college degree = low; $\geq$ college degree = high). These results are found in Table 2.

TABLE 2
MANOVA'S OF RISK REDUCTION STRATEGIES ACROSS DEMOGRAPHICS

	SOURCE							
STRATEGY	BUYTIME		SEX		AGE		EDUCATE		CPM	
	F	F-PROB	F	F-PROB	F	F-PROB	F	F-PROB	F	F-PROB
All Strategies	2.33	.011	5.74	.000	1.95	.037	4.07	.000	2.63	.004

As can be seen, significant differences were found in each case. Each of the independent variables was found to impact the extent to which the set of ten risk reduction strategies would be employed.

Given these findings, it was appropriate to conduct a series of ANOVA's to determine exactly "where" the differences occurred within the vector of extent of use scores. Table 3 presents the results of this endeavor.

TABLE 3
ANOVA'S OF RISK REDUCTION STRATEGIES
ACROSS DEMOGRAPHICS

	BUYTIME		SEX		SOURCE AGE		EDUCATE		CPM	
STRATEGY	NEW	OLD	MALE	FEMALE	YOUNG	OLD	LOW	HIGH	YES	NO
Consult the buyers in other firms	2.90	2.86	2.93	2.77	2.97	2.87	2.61*3.00		2.92	2.87
Arrange a visit to supplier's plant	1.36*1.19		1.26	1.38	1.55*1.26		1.26	1.31	1.22	1.33
Seek top management commitment from supplier	1.49	1.46	1.47	1.50	1.66	1.45	1.36	1.53	1.42	1.51
Search for additional published information	2.19	2.23	2.22	2.16	2.22	2.20	2.14	2.24	2.14	2.24
Negotiate a penalty clause	2.09	2.24	2.31*1.75		2.02	2.17	1.85*2.28		2.44*2.03	
Negotiate for a better price	2.19	2.39	2.41*1.92		2.03	2.31	2.01*2.38		2.53*2.16	
Insure that your management is in favor of supplier	2.04	2.24	2.27*1.73		2.14	2.11	1.78*2.26		2.18	2.09
Consult with your own manufacturing people	2.92	2.86	3.04*2.53		2.92	2.89	2.54*3.04		2.95	2.87
Investigate means of expediting supplier delivery commitment	2.04	2.19	2.20*1.87		2.16	2.10	1.91*2.19		2.27*2.04	
Split the order between suppliers	2.95	2.83	2.92	2.87	3.11	2.87	2.99	2.87	2.98	2.87

* Indicates differences at the .05 level

The length of time employed as a purchasing professional (buytime), and the age of the buyer (age) appeared to have minimal effect on the use of risk reduction strategies. The three individual characteristics that appeared to have the most impact on the use of risk reduction strategies were CPM certification (CPM), gender (sex), and respondent education level (educate). Significant differences were found for three, five, and six of the individual strategies respectively.

In an attempt to draw some generalizations, the risk reduction strategies were next grouped as per the previously discussed Sweeney, Mathews, and Wilson (1973), and Webster and Wind (1972a) risk reduction strategy typologies. Table 4 presents the former.

TABLE 4
ANOVA'S OF RISK REDUCTION STRATEGIES
ACROSS DEMOGRAPHICS (GROUPED AS PER
SWEENEY, MATHEWS, AND WILSON, 1973)

	BUYTIME		SEX		SOURCE AGE		EDUCATE		CPM	
STRATEGY	NEW	OLD	MALE	FEMALE	YOUNG	OLD	LOW	HIGH	YES	NO
INTERNAL UNCERTAINTY										
Consult the buyers in other firms							2.61<3.00			
Search for additional published information										
Negotiate a penalty clause			2.31>1.75				1.85<2.28		2.44>2.03	
EXTERNAL UNCERTAINTY										
Arrange a visit to supplier's plant	1.36>1.19				1.55>1.26					
Seek top management commitment from supplier										
Investigate means of expediting supplier delivery commitment			2.20>1.87				1.91<2.19		2.27>2.04	
INTERNAL CONSEQUENCE										
Insure that your management is in favor of supplier			2.27>1.73				1.78<2.26			
Consult with your own manufacturing people			3.04>2.53				2.54<3.04			
EXTERNAL CONSEQUENCE										
Negotiate for a better price			2.41>1.92				2.01<2.38		2.53>2.16	
Split the order between suppliers										

Note: For ease of interpretation, only the differences significant at the .05 level are presented.

Three major conclusions can be drawn from this table. First, females have a greater propensity to employ internal consequence reducing strategies than do males. Similarly, those with less education are more likely to employ internal consequence reducing strategies than those with more education. Finally, it appears as if those with less education have a greater tendency to employ internal (both consequence and uncertainty) risk reducing strategies than do those with more education.

Buyers stay within their own firms to reduce the seriousness of negative consequences when they employ internal consequence reducing strategies (Sweeney, Mathews, and Wilson, 1973). Female buyers, and those buyers with less education, show a greater propensity, relative to males and those with more education respectively, to do just that.

At least two possible postulations can be developed from this finding. First, it may suggest that these two groups are quite concerned with reaching an "internal consensus" within the organization prior to the purchase. In this sense, it reflects a philosophy for the conduct of business.

On the other hand, it may imply that these two groups are less confident in their abilities to make the right decision and are attempting to "spread the risk". That is, if things go wrong, others within the organization would be partly to blame.

As a final step, the ten strategies were grouped as per the Webster and Wind (1972a) typology. The strategies represented both information acquisition and investment reduction activities. Table 5 presents the results.

TABLE 5
ANOVA'S OF RISK REDUCTION STRATEGIES
ACROSS DEMOGRAPHICS (GROUPED AS PER
WEBSTER AND WIND, 1972a)

	BUYTIME		SEX		SOURCE AGE		EDUCATE		CPM	
STRATEGY	NEW	OLD	MALE	FEMALE	YOUNG	OLD	LOW	HIGH	YES	NO
INFORMATION ACQUISITION										
Consult the buyers in other firms							2.61<3.00			
Arrange a visit to supplier's plant	1.36>1.19				1.55>1.26					
Seek top management commitment from supplier										
Search for additional published information										
INVESTMENT REDUCTION										
Negotiate a penalty clause			2.31>1.75				1.85<2.28		2.44>2.03	
Negotiate for a better price			2.41>1.92				2.01<2.38		2.53>2.16	
Insure that your management is in favor of supplier			2.27>1.73				1.78<2.26			
Consult with your own manufacturing people			3.04>2.53				2.54<3.04			
Investigate means of expediting supplier delivery commitment			2.20>1.87				1.91<2.19		2.27>2.04	
Split the order between suppliers										

Note: For ease of interpretation, only the differences significant at the .05 level are presented.

In this case, the generalizations become much

easier. Females clearly had a greater propensity to employ investment reduction strategies than did males. There was also a definite tendency for those with less education to employ investment reduction strategies to a greater extent than those with more. The evidence also suggested that non-CPM's employ investment reduction strategies to a greater extent than do CPM's. Finally, virtually no differences were found in the use of information acquisition strategies.

Buyers reduce either the amount of time and effort involved in the search, the financial investment involved, or their own personal commitment to the buying situation when they employ investment reduction strategies (Webster and Wind, 1972a). Female buyers, those buyers with less education, and non-CPM buyers all had a propensity to employ these strategies to a greater extent than did males, buyers with more education, and CPM's respectively.

A number of the investment reduction strategies employed in this study are remnants of the older "adversary" school of organizational buying (e.g. negotiate a penalty clause; negotiate for a better price; investigate ways to expedite the order). More recent thinking in buying reflects less confrontation and more cooperation. The results suggest that females, those less educated, and non-CPM's may be influenced to a greater degree by this adversary line of thought.

Conclusions

An understanding of the risk reduction behavior of organizational buyers is valuable knowledge to those involved in industrial sales. This study has shown that individual characteristics of buyers can, to some degree, be used to predict these behaviors. As the characteristics examined in this study can be easily determined by salespeople, the finding of this study should prove useful to them.

Sellers who pay attention to individual characteristics will have an a priori knowledge of likely buyer responses. This knowledge should allow salespersons the opportunity to tailor their sales presentations and follow-ups to the situation at hand.

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