The Regret Construct and How
It Influences Choice

Robert N. Stone
James L. Wardrop

BEBR

The Regret Construct and How It Influences Choice

Robert N. Stone
University of Illinois

James L. Wardrop
University of Illinois

Department of Business Administration

Robert N. Stone is an Assistant Professor of Marketing (Visitor), College of
Commerce and Business Administration, University of Illinois. James L.
Wardrop is a Professor of Educational Psychology, College of Education,
University of Illinois. Partial funding for this research was provided by the
University of Illinois. Address correspondence to: Robert N. Stone,
University of Illinois, College of Commerce, Room 350 Comm West, Champaign, IL
61820. (217) 333-6129.

THE REGRET CONSTRUCT AND HOW IT INFLUENCES CHOICE

ABSTRACT

This research examined regret, a construct that has received virtually no attention in the marketing and consumer research literature. Regret was conceptualized as a pre-decisional mediating influence that impacts intentions through its role in attitude formation. A four-item regret scale was developed (alpha=.858) and the construct was employed in a structural equations model and tested with LISREL. All results, especially those relating regret and attitude were encouraging.

THE REGRET CONSTRUCT AND HOW IT INFLUENCES CHOICE

"Don't leave home without it," advises actor and American Express Card spokesman Karl Malden. Amongst "Apocalypse Now" music, a disgruntled businessman appears who just lost out on bidding on an important contract because his current phone system did not capture a message advising him of his chance to present a counter-offer to the winning bid. "You really cannot afford to be without AT&T" is the implication. And advertising award winning TV star Wilford Brimley wants to make sure we understand to eat Quaker Oaks because "It's the right thing to do."

One recognizes the common thread woven through the fabric of these commercials. It is simply the idea that a suggested behavior ought to be undertaken or the prospective customer/consumer will be sorry. The marketer's hope is to guide pre-choice deliberation to the following conclusion: "If I don't do what is being proposed, I'll wish I had." We conceptualize this mediating, influential construct as regret, or what Janis and Mann (1977) called "anticipatory regret." In this formulation for the construct, regret is seen as the loss expectation associated with choosing not to proceed with an exchange. The objectives of this paper are to define and conceptualize the regret construct for marketing purposes; to empirically define and present multiple measures of the construct; and to show how regret impacts decision making.

Background

The Regret construct has not received much attention in the marketing or buyer behavior literature. It has received considerable consideration in the statistical literature where it is treated as a post-decisional phenomenon (Savage 1954, p.163). While we are presenting a pre-decisional perspective for regret, we briefly review the statistical treatment of the concept for comparison purposes.

Consider $E(f/B_i)$ as the expected income "f" that results from choosing a particular behavioral alternative "B_i." Say a person chooses a particular "ith" alternative "B_x" and evaluates the outcome. If it is perceived that alternative "B_y" would have led to a more propitious outcome [that is, $E(f/B_y) > E(f/B_x)$], then $L(B_{xy};i)$ is the loss in income, i because alternative B_x was chosen instead of B_y. Regret becomes the subjective loss experienced as the difference between $E(f/B_y)$ and $E(f/B_x)$.

Simon (1959, p.267), providing commentary on Savage, views Savage as saying that people are not prone so much to maximize utility as they are to minimize regret. "Regret", Simon states, "means the difference between the reward actually obtained and the reward that could have been obtained with perfect foresight...." And in an effort to account for the shortcomings of subjective expected utility theory, Bell (1982) suggested that regret explicitly be incorporated into expected utility theory so as to better understand behavior. He presented the following:

> After making a decision under uncertainty, a
> person may discover, on learning the relevant
> outcomes, that another alternative would have
> been preferable. This knowledge may impart a
> sense of loss, or regret.

Savage, Simon, and Bell all present after-the-fact perspectives for regret. With results realized, one assesses the outcome. If the perception is that another choice would have been superior, regret is experienced. The conception of regret adopted in the present research is rather different in that we view regret as an a priori expectation, not an a posteriori realization. In this view, regret becomes an important mediating construct in the decision-making process. This orientation is in accord with Janis and Mann, who point out (1977, p.222):

> Anticipatory regret is a...term to refer to the main
> psychological effects of the various worries that beset a
> decision maker before any losses actually
> materialize....Anticipatory regret is conceptualized as a
> hot cognitive process that has the functional value of
> motivating the decision maker....

Regret in the Consumer Literature

When regret has been the research focus in the buyer behavior and marketing literature, the presentation of regret has paralleled the post-decisional statisticians' point-of-view (Sanders 1985). As example, Lazer and Culley (1983, p.312) present a regret matrix crossing "acts" with actual "states of nature." After multiplying to determine cell entries, regret is then calculated by comparing the chosen act with those that could have been selected.

In another instance, Hansen (1972, p.186) remarked:

> What will happen after the choice depends upon whether or
> not conflict is present....[Several researchers] have found
> that immediately after the choice, the chosen alternative
> can become less attractive and rejected alternatives more
> attractive. At the present time very little is known about
> the conditions which will produce such a "regret" effect.

The circumspect reader may want to claim that cognitive
dissonance theory adequately addresses Hansen's post-choice
phenomena and that regret does not add to understandings.
It may be helpful to suggest that the domain for cognitive
dissonance theory is immediately after a choice is made; for
post-choice regret, the domain is restricted to comparisons
of the actual outcome to other outcomes.

Some Reinterpretations Using Regret Theory

We have selected two articles in the consumer research
literature that may be re-examined using the regret
construct. Both articles focused on risk, one by Deering
and Jacoby (1972) and the other by Barach (1969).

Deering and Jacoby (1972). Deering and Jacoby
suggested the novel idea that consumers may want to increase
the risk they experience. Most risk researchers have
investigated risk reducing, not risk enhancing efforts. In
the concluding commentary to their article, the authors
suggested that, "Identifying consumers who would enhance
risk...would be useful in anticipating market response to
product changes."

If regret is the expectation of loss associated with
not going forward with an exchange as we have defined it,

then risk may be defined as the expectation of loss associated with carrying out the exchange. For example, one might choose not to make an investment or not to purchase an article of clothing because it is perceived as "too risky." Such a perception suggests an anticipated loss, loss of money (if the investment is made) or loss of esteem (if the clothing is worn). If we accept that risk is loss expectation associated with proceeding with an exchange, it is reasonable to argue that most people prefer to avoid such losses, and thus will avoid "risky" exchanges. At the same time, if regret is the loss expectation associated with <u>not</u> proceeding with the exchange, it is reasonable to expect most people to seek to minimize regret. That is, to the extent that one associates a loss with *not* going forward with an exchange, then that exchange is more likely to be consummated. This is where regret theory can make its contribution. Individuals do not try to maximize risk, the loss from going forward with an exchange, but they try to minimize regret, the loss associated with not proceeding.

For Deering and Jacoby, an appropriate conclusion would be, "Identifying consumers who experience enhanced **regret**...would be useful in anticipating market response to product changes." This is what American Express, AT&T, and Quaker Oats seek. The relevant segmentation question is, "Which groups will experience a sense of loss (regret) if they do <u>not</u> engage in the behavior being advocated."

Barach (1969). Barach advanced the concepts of "risk of commission" and "risk of omission." According to Barach, a "positive risk style" was characteristic of those persons who preferred to experience many products and possibly make "an error of commission to avoid an error of omission." In contrast, a "negative risk style" would characterize people "who would rather make errors of omission...." Notice how awkward it would be, as an example, to think of a "positive uncertainty style", a consequence of equating risk with uncertainty which seems so often to be the case with risk research in marketing.

From the perspective advocated here, Barach's "positive risk style" presentation presents people whose behavior is more driven by regret (loss from not proceeding) than by risk (loss from proceeding). The reverse would be the case for his "negative risk style" presentation. The former individuals would rather try the product and make an error of a poor choice rather than pass up the product and in doing so miss out on the associated benefits. These people can be seen as being driven more by regret than by risk. The reverse would be for the "negative style" case.

To measure risk styles, two five-point scales were combined to form an index as follows (Barach, 1969, p.316):

> The positive extremes said they were often "concerned that by not doing something...(they had) missed an important opportunity," and that they "practically never...avoid doing things for fear...(they) might make a mistake."

Barach's first question is past tense ("had missed") while his second question is future tense ("might make"). One may challenge the wisdom of creating a variable by adding responses to items with different tenses. However, the objective here is to see how regret may assist understanding. Using the regret construct, Barach's first question is tantamount to a question about regret as regret is conceptualized by Simon, Savage, and others. Barach's second question is of the form of anticipatory regret, the focus of our research. The individual senses loss <u>from</u> <u>not</u> engaging the behavior. We suggest that regret terminology is far better conceptually in helping to explain Barach's assertions rather than equating risk with uncertainty or worse, not defining risk at all.

Is This Just Semantics?

It is appropriate to ask whether the concept of "regret" adds to our understanding of behavior or is it simply another name for what Barach called "risk of omission." Broadbeck (1984, p.16) remarked:

> Definitions...are not statements but rules about the use of words....It is frequently convenient to expess them as statements. In that case, they are tautologies of the form "P=P."

Hunt (1983, pgs. 232-243) remarks that nominal definitions follow rules of replacement. An element, the definiendum in a statement can be replaced by another element or elements, the definiens, without losing the truth value of the statement. It should be possible to substitute

the definition of risk (or regret) for the term itself and still preserve the original meaning. Unfortunately, Barach did not explicitly define risk.

One way to clarify Barach's ideas is to link risk to "danger", a link suggested elsewhere (Cunningham 1967). Substituting danger for risk leads to the "danger of omission" (or "danger of comission") which certainly does make sense. But this begs the question of why danger would be associated with omission or comission. The answer: danger is associated because of one's loss expectation from either anticipating a mistake, anticipatory regret, or actually experiencing a mistake, post-decisional regret.

Using our definition of regret as "the loss expectation associated with not proceeding with an exchange", and risk as the loss associated with proceeding with one provides us with a pair of complementary concepts with the potential to increase our understanding of behavior. Whether our belief in that potential is justified is the focus of the research reported here.

HYPOTHESES

The hypotheses center around two issues. The first is **developing** the regret construct and the second is **legitimizing** the construct. To develop understanding for a construct requires relating that construct to others with which it should have predictable relationships. To

legitimize a construct requires showing how it assists understanding choice behavior (Wilkie and Pessemier 1973). To investigate this, we will introduce the construct into Fishbein's intentions model (Ajzen and Fishbein 1980). That model proposes that behavioral intentions are directly influenced by attitude and subjective norms, the former construct the personally driven part of intentions formation and the latter construct that part of intention formation influenced by what one thinks others believe about the behavior. We suggest that the role for regret is in understanding how it influences the formation of attitude.

Four hypotheses were developed for this research, the first three concerned with construct development and the fourth with construct legitimization. Since Regret is viewed as a construct of loss expectations associated with not undertaking a behavior, it is hypothesized to correlate positively with attitudes and intentions that are favorable towards a particular behavior. If our formulation is correct, people who are more favorable towards performing an action will be those who, on the average, have a greater expectation of loss if they do not engage in that behavior. That is, "other things being equal," the greater one's feelings of regret, the more likely one is to perform the act. The following two hypotheses focus on the relationships between regret and attitude towards an act (A_{act}) and behavioral intentions (B_i).

H1: Regret will be positively correlated with attitude towards an act (Aact).

H2: Regret will be positively correlated with behavioral intentions.

Regret was developed by conceptualizing and relating it to risk. The next hypothesis is designed to develop understanding for regret by empirically relating the construct to risk. The two constructs were defined as loss expectations associated with opposite behaviors. They are hypothesized to be negatively correlated, but the constructs are not viewed as mirror images.

H3: Risk and Regret will be negatively correlated but are not mirror images of each other. That is, the correlation will not approach - 1.00 but will be closer to -.5.

Figure A depicts the hypothesized relationships. Regret is shown as positively related to Attitude and Intentions and negatively related to risk. The negative paths between risk and attitude and risk and intentions are not shown as they are not the focus of this research.

[Insert Figure A Here]

The fourth hypothesis tests the utility of the regret construct. When measuring attitude, Fishbein's procedure calls for an elicitation of beliefs having to do with the advantages and disadvantages of engaging a behavior (c.f., Appendix). In this procedure, one's thoughts about not

engaging in the behavior are not routinely elicited. Yet, it would seem that the anticipation of missing out (loss expectation) would influence one's attitude. We anticipate that adding Regret to the traditional Fishbein "evaluated beliefs" model will allow us to explain significantly more of the variance in attitude (A_{act}) than is possible without it.

H4: Regret will account for a significant increase in explained variance in Attitude towards an act (Aact) after Aact is regressed on evaluated beliefs.

Figure B shows the causal model that we hypothesize. The Fishbein predictors, attitude and the subjective norm, are shown to directly influence intentions; regret is shown to influence attitude formation.

[Insert Figure B Here]

METHODOLOGY

Questionnaires were sent to all alumni from an Executive MBA program at a major midwestern university. An introductory letter was sent to these 280 individuals alerting them to the fact that they were soon to receive a questionnaire. Shortly thereafter, the questionnaire was mailed. This procedure was repeated and the two wave mailing resulted in a response rate of just over 70%.

Variables

The variables to operationalize were regret, risk, attitude, and intentions. Composite variables were to be formed by adding the items that measured a particular construct and factor analysis would be used to ascertain scale unidimensionality (Churchill 1979). Questions were operationalized with the following variables (coefficient alpha reliability estimates in parentheses):

ATTITUDE (alpha = .92)

The behavior of interest was the purchase of a personal computer, within the next year, for one's use at home. Six attitude measures were developed with endpoints wise-foolish, satisfying-dissatisfying, bad-good, not beneficial-beneficial, pleasant-unpleasant, and worthless-valuable. Each question was measured on a seven point bipolar scale.

INTENTIONS (alpha = .95)

The three questions measuring intention to buy the personal computer for home use had endpoints "improbable-probable," "likely-unlikely", "a certainty that I will-a certainty that I won't." Each question was measured on a seven point bipolar scale.

REGRET (alpha = .86):

Each regret question was worded as "pre-choice" with loss arising from <u>not</u> <u>engaging</u> an exchange.

(1) "All things considered, I think that if I do not buy a personal computer for home use within the next twelve months I will really be missing out."

(2) "I know that I will feel an increasing sense of loss over the next twelve months if I do not buy a personal computer for my use at home."

(3) If I don't buy a personal computer within the next twelve months, I think that I may worry if I made the right decision.

(4) All things considered, I know I will really regret it if I do not buy a personal computer for home use within the next twelve months.

Each question was a 7-point, bi-polar with "extremely agree" and "extremely disagree" endpoints.

RISK (alpha = .69)

For **RISK**, measures consisted of 7-point bipolars with endpoints "extremely agree" and "extremely disagree". Each question was worded as "pre-choice" with loss arising from engaging a behavior.

(1) "Overall, the thought of buying a personal computer within the next twelve months causes me to be concerned with experiencing some kind of loss (social, financial, performance, etc.) if I went ahead with the purchase";

(2) "All things considered, I think I would be making a mistake if I bought a personal computer within the next twelve months for my use at home";

(3) "When all is said and done, I really feel that the
purchase of a personal computer within the next twelve
months poses problems for me that I just don't need."

RESULTS

Before combining variables to form scale values,

Churchill's recommendation was followed (1979, p.69):

> ...theoretical arguments support the iterative process of
> the calculation of coefficient alpha, the elimination of
> items, and the subsequent calculation of alpha until a
> satisfactory coefficient is achieved. Factor analysis then
> can be used to confirm whether the number of dimensions
> conceptualized can be verified empirically.

Alpha values were calculated and are as follows:

Reliabilities

	# of Measures	Coefficient Alpha
Attitude Towards the Act	6	.915
Behavioral Intention	3	.953
Risk	3	.686
Regret	4	.858

A factor analysis was next undertaken to ascertain

scale unidimensionalities. Results of that procedure (post-

rotation values reported) are shown in Table 1.

[Insert Table 1 Here]

Because of the acceptable loadings, it was believed

that adding respective variables to form the composite

variables (Att2act, BIsum, Risk, Regret) was appropriate.

Testing the Hypotheses

The first two hypotheses related regret with attitude and intentions. The following information supports hypotheses one and hypothesis two with strong, positive correlations as hypothesized.

First Order Correlations of Regret with Risk, Attitude, and Intentions

Regret

Aact	.597	p<.001
Intentions	.647	p<.001
RISK	-.404	p<.001

The information also provides support for hypothesis three. Risk and Regret show a strong, negative correlation, though not approaching -1. Hypothesis 3 is supported.

Before testing hypothesis four, it was necessary to first establish that the relationships within the Fishbein Model were substantiated by the data in this study. Otherwise, any effort to show how choice is better accounted for by incorporating Regret into the Fishbein Model would be pointless. Table 2 presents correlations for predictor and criterion variables in the Fishbein Model. The five variables in Table 2 are defined as follows (number of items show in table of reliabilities for Attitude (6) and Intentions (3); SN was measured with one variable, Ebsum with nine evaluated beliefs, and Nbsum with 5 normative beliefs and respective motivations to comply):

Ebsum: sum of products of beliefs and evaluations.

Nbsum: sum of products of normative beliefs and motivations to comply.

Att2act: direct measure of the attitudinal component.

SN: direct measure of the normative component.

BIsum: direct measure of the intentions criterion.

[**Insert Table 2 Here**]

The Fishbein Model requires that Behavioral Intentions correlate higher with its direct indicants, Attitude and the Subjective Norm, than with its indirect indicants, Ebsum and Nbsum. Examining the entries in the last row of Table 2 shows that this requirement held true for Attitudes and Behavioral Intentions, with a direct correlation of .715, against the indirect correlation for Behavioral Intentions and Ebsum of .595. However, the correlation between Behavioral Intentions and the direct measure of Subjective Norm was only .427 while the correlation between Behavioral Intentions and Nbsum was .647. Even though this result does not satisfy the requirement, both correlations are substantial. The stronger relationship for the attitudinal than the normative indicator is also consistent with our expectations that decisions about purchasing a personal computer for home use would be more attitudinally than normatively driven.

As a further check on the appropriateness of the model, attitude and subjective norm were used as independent

variables in a regression model for predicting behavioral intentions. The attitudinal compnent accounted for most of the variance (51%), and the combination of attitude and subjective norm accounted for 54% of the variance in behavioral intentions (See Table 3). These results were consistent with our expectations for the Fishbein Model in this context.

[**Insert Table 3 Here**]

The Attitudinal component accounted for most of the variance in Intentions as expected. As a unit, the predictors accounted for over 54% ($.738^2$) of the variance in Behavioral Intentions. With the Fishbein Model validated, discussion turns now to examining hypothesis four.

The fourth hypothesis was designed to establish a legitimacy for regret by showing that it contributes to understanding choice. The next table is used to address the fourth hypothesis.

[**Insert Table 4 Here**]

In Table 4 are results of the regression analysis testing whether the addition of Regret to the predictors in the Fishbein Model led to a significant increase in the proportion of variance in Aact that could be explained. As can be seen, when a stepwise regression was used the best single predictor was Ebsum, accounting for 44% of the variance, followed by Regret, which accounted for an

additional 9% (significant at the .001 level). The combination of Ebsum and Regret explained more than half of the variance in attitude (53%).

Testing the Model

In Figure 2 is a model proposed to account for the contribution of regret to the prediction of Behavioral Intentions. As the Figure indicates, Regret is presumed to affect B_i only indirectly, through its contribution to A_{act}. Parameters in this model were estimated using LISREL VI (Joreskog and Sorbom, 1984). Using LISREL permitted incorporating measurement error (estimated as 1-alpha) into the model with both theory and data brought together as equal partners in knowledge development (Bagozzi 1979). Table 5 summarizes the results of this analysis.

[Insert Table 5 Here]

The paths from A_{act} (A) and SN (S) to BIsum (B) are both significantly greater than zero, consistent with expectations based on the Fishbein Model. Also, the coefficient for A_{act} is more than three times as large as that for SN, as suggested earlier. As expected, the constructed composite Nbsum has a significant effect on SN (path coefficient = .776, t = 11.97), and the attitudinal composite Ebsum is significantly related to A_{act} (coefficient = .407, t = 4.99). Most important for the current study is the significant effect of Regret on A_{act}

(coefficient = .343, t = 4.83). That is, regret adds significantly to Ebsum in allowing us to account for the individual differences in Aact among the respondents in this study.

DISCUSSION

The idea of a role for regret as a mediating influence in intentions formation has been shown to have merit. Researchers can only surmise how many purchases, either attitudinally driven or normatively driven, are made because the buyer acts so as not to be left behind. It is the (anticipated) loss from not acting that is influencing behavior.

Although pre-decisional regret has not been incorporated into choice models, it has been shown here to enhance the explanation of one's attitude toward a product purchase. Consumers may be reluctant to admit that one of the real (perceived) benefits of a purchase is that "everyone else has one and now so do I", but those who study consumer behavior should not share that reluctance.

In their model of the stages of decision making presented in a section entitled "hot cognitive processes," Janis and Mann (1977, p.190) suggest that the start of the decision making process begins with an input they call "challenging negative feedback or opportunity." We suggest here that one aspect of "challenging negative feedback"

involves the decision maker's concern about the possible loss from not going forward with a purchase. If anticipatory regret is experienced at this moment, and if this regret exceeds an assessment of the loss from proceeding, that is, one's risk assessment, behavior will occur in the direction of consummating the exchange. For years, marketers have been discussing the efforts of a particular firm to present themselves as the firm to do business with and competition as the firm(s) to not do business with. These firms were simply employing the constructs regret and risk in their communications mix by hoping to engender this thought: "If you do business with them, you'll miss out on the benefits of doing business with me (i.e., experience loss from not proceeding with me). Why take that risk?" (i.e., experience loss from proceeding with them).

In this study, the construct of regret was found to be useful in predicting Aact, where the act was the purchase of a home computer by alumni of an Executive MBA program. Further research on the value of this construct in both consumer and industrial settings would seem indicated. In addition, it would be worthwhile to analyze advertisements in an effort to identify their use of regret inducements and not only their presentation of the benefits of the purchases they advocate.

APPENDIX

Elicitation Procedure

    The steps needed to construct the variables for the Fishbein Model are nicely presented in a 1980 work by Ajzen and Fishbein (p.260-263). Very briefly, the 5 steps are as follows:

1. Define the behavior of interest in terms of action, target, context, and time elements.
2. Define the corresponding behavioral intention.
3. Define the corresponding attitude and subjective norm.
4. Elicit salient outcomes and referents.
5. Define beliefs to be used in constructing attitude known as behavioral beliefs, define outcome evaluations, define normative beliefs, and define motivation to comply.

    Step number 4 is the critical "beliefs generating step." The elicitation requires a sample of respondents, representative of the population to be studied, to provide answers to the following questions:

(1) What do you see as the advantages of...?
(2) What do you see as the disadvantages of ...?
(3) Is there anything else you associate with...?

    For this study, the three questions addressed the behavior defined above regarding the personal computer purchase. The three questions provide information for the first component (attitudinal) of the Fishbein Model. For the second component, the normative component, the elicitation calls for questions as follows:

(1) Are there any groups or people who would approve of ...?
(2) Are there any groups or people who would disapprove of...?
(3) Are there any other groups or people who come to mind when you think about...?

In order to determine the salient beliefs necessary for the two predictors of the Fishbein model, these beliefs were determined in an elicitation technique done with executive Master of Business Administration students. These students were asked for the advantages and disadvantages of their purchasing a personal computer for home use within the next twelve months. Content analysis of responses provided nine salient beliefs, seven positive and two negative, and these comprised the beliefs used to predict Aact. Beliefs used for predicting SN were determined through the use of experts. Five beliefs were agreed to and these comprised the beliefs for the SN prediction. Note that the "cookbook" approach for generating normative beliefs was not followed, but post-survey discussions with respondents showed that the referents chosen for the normative beliefs were almost identical to those that students would have listed.

REFERENCES

Ajzen, Icek and Martin Fishbein (1980), Understanding Attitudes and Predicting Social Behavior, Englewood Cliffs: Prentice Hall.

Bagozzi, Richard (1979), "The Role of Measurement in Theory Construction and Hypopthesis Testing: Toward a Holistic Model," in Conceptual and Theoretical Developments in Marketing, O.C. Ferrell, Stephen Brown, and Charles Lamb, Eds., Chicago: American Marketing Association, 15-33.

Barach, Jeffrey A. (1969), "Advertising Effectiveness and Risk in the Consumer Decision Process," Journal of Marketing Research, VI(August), 314-320.

Bell, David E. (1982), Regret in Decision Making Under Uncertainty," Operations Research, 30(Sept-Oct.), 961-981.

Broadbeck, May (1984), "Recent Developments in the Philosophy of Science," in Marketing Theory, Distinguished Contributions, Stephen Brown and Raymond Fisk, Eds., New York, John Wiley & Sons.

Churchill, Gilbert A. (1979), "A Paradigm for Developing Better Measures of Marketing Constructs," Journal of Marketing Research, 16(February), 64-73.

Cunningham, Scott M. (1967), "The Major Dimensions of Perceived Risk," in Risk Taking and Information Handling in Consumer Behavior, Donald F.Cox, Ed., Boston: Division of Research, Graduate School of Business Administration, Havard University, 82-108.

Deering, Barbara J. and Jacob Jacoby (1972), "Risk Enhancement and Risk Reduction as Strategies for Handling Perceived Risk," in Proceedings of the Third Annual Conference, M. Venkatesan, Ed., Association for Consumer Research.

Hansen, Flemming (1972), Consumer Choice Behavior, New York: The Free

    Press.

Hunt, Shelby (1983), Marketing Theory, Homewood: Richard D. Irwin.

Janis, Irving L. and Leon Mann (1977), "Stages of Decision Making", in

    Decision Making: A Psychological Analysis of Conflict, Choice, and

    Commitment, New York: The Free Press, 171-200.

Janis, Irving L. and Leon Mann (1977), "Anticipatory Regret", in

    Decision Making: A Psychological Analysis of Conflict, Choice, and

    Commitment, New York: The Free Press, 219-242.

Joreskog, Karl and Dag Sorbom (1984), Analysis of Linear Structural

    Relationships by Maximum Likelihood and Least Squares Methods,

    Chicago: National Educational Resources.

Lazer, William and James Culley (1983), Marketing Management, Boston:

    Houghton Mifflin Company.

Sanders, Clinton R. (1985), "Risk and Regret in the Purchase of a

    Socially Marginal Service," in Advances in Consumer Research, Volume

    XII, Elizabeth Hirschman and Morris Holbrook, Eds., Provo:

    Association for Consumer Research.

Savage, Leonard J. (1954), The Foundations of Statistics, New York: John

    Wiley & Sons.

Simon, Herbert (1959), "Theories of Decision-Making in Economics and

    Behavioral Sciences," American Economic Review, 49(June), 253-283.

Wilkie, William L. and Edgar A. Pessemier (1973), "Issues in

    Marketing's Use of Multi-Attribute Attitude Models," Journal of

    Marketing Research, 10(November), 428-441.

TABLE 1

FACTOR ANALYSIS OF COMPOSITE VARIABLES

Name	No. of Measures	Factors	Eigenvalue	% Common Variance
Att2act	6	1	3.8830	.647
BIsum	3	1	2.6107	.870
Risk	3	1	1.5480	.516
Regret	4	1	2.4114	.604

TABLE 2

CORRELATIONS OF FISHBEIN PREDICTOR
AND CRITERION VARIABLES

	Ebsum	Nbsum	Att2act	SN	BIsum
Ebsum					
Nbsum	.527				
Att2act	.661	.546			
SN	.434	.736	.354		
BIsum	.595	.647	.715	.427	

TABLE 3

REGRESSION ANALYSIS IF INTENTIONS ON ATTITUDE
AND THE SUBJECTIVE NORM

Independent Variable	Simple r	Multiple-R	R2	Standardized Weight (Beta)	P
Att2act	.715	.715	.51	.644	<.001
Sn	.427	.738	.54	.198	<.005

TABLE 4

Regression of Attitude on Ebsum and Regret

Independent Variable	Simple r	Multiple R	R2	Standardized Weight (Beta)	P
Ebsum	.661	.661	.44	.482	<.001
Regret	.597	.726	.53	.349	<.001

TABLE 5

PARAMETER ESTIMATES FOR STRUCTURAL PATHS IN A MODEL OF THE
ROLE OF REGRET IN THE CHOICE PROCESS

Path Coefficient From...To		Parameter Estimate	t-value
R	A	.343	4.83
E	A	.407	4.99
N	S	.776	11.97
A	B	.727	12.12
S	B	.221	3.72

Note: R=Regret; A=Attitude towards the act; E=Ebsum; N=Nbsum;
S=SN; B=Bisum
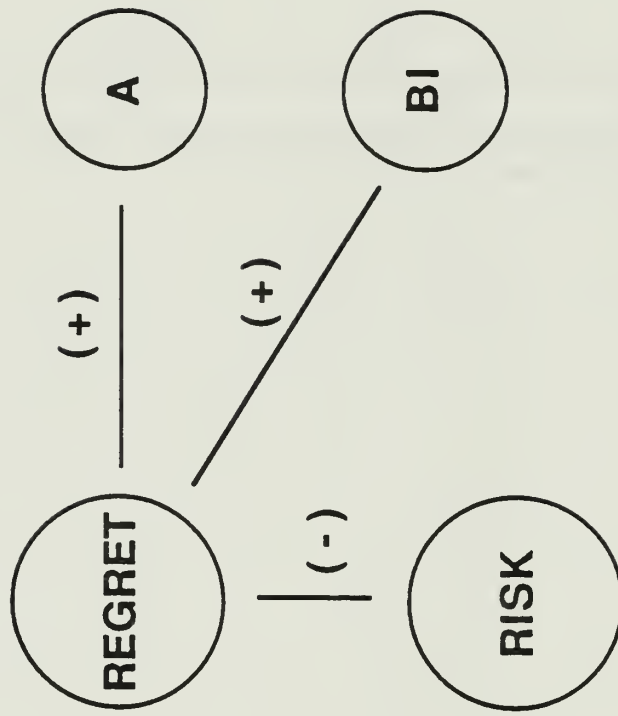
FIGURE A

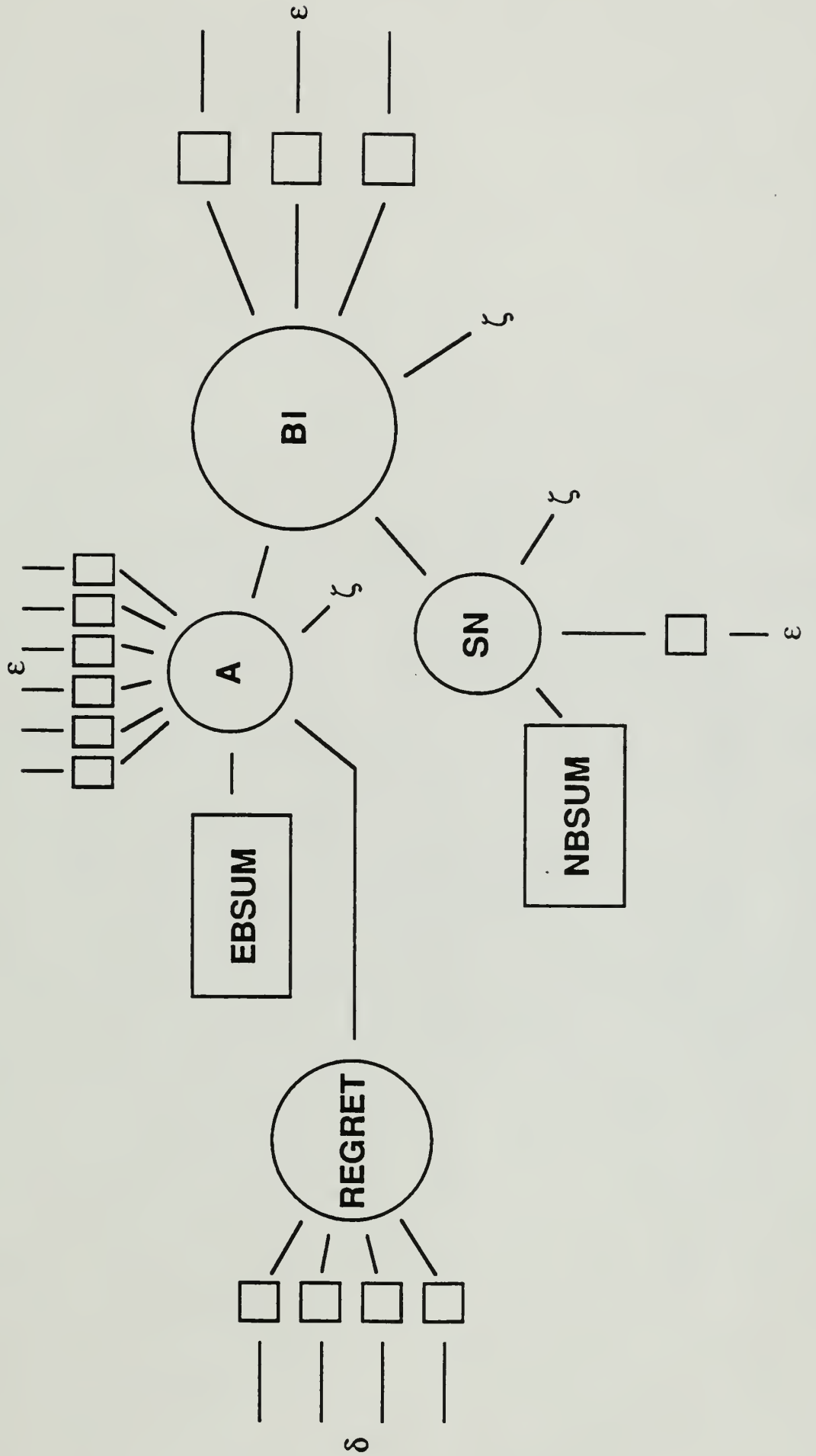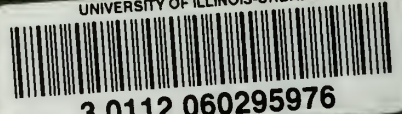REATING REGRET TO ATTITUDE, INTENTIONS, AND RISK

FIGURE B

THE ROLE OF REGRET IN INFLUENCING CHOICE