MODELING THE COGNITIVE ANTECEDENTS OF POST-CONSUMPTION EMOTIONS

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ABSTRACT

While much work has been done to model the antecedents of satisfaction, very little attention has been paid in the marketing literature to the antecedents of consumption emotions. This paper explores one cognitive model of emotions and provides experimental evidence to show that cognitive appraisals such as goal significance, outcome desirability and attribution do influence various emotions. It is further shown that the effect of cognitive appraisals on behaviors are almost totally mediated by the emotions. Empirical evidence which shows that emotions such as anger and shame are significant predictors of consumer behaviors over and above the predictive power of customer satisfaction is provided.

INTRODUCTION

Keith Hunt (1993) wrote that it was obvious 'that CS/D&CB are emotion driven, not cognition driven' and that 'emotion is the critical element in CS/D&CB.' Woodruff (1993) suggested that the study of emotions as it relates to CS/D&CB should be a priority research stream. The growing importance of emotion is illustrated by the increasing numbers of papers published in JCS/D&CB that investigate the role of emotion in the CS/D&CB paradigm. The research done on emotions (as it applies to this field) have either concluded that emotions are antecedents of CS/D (Oliver 1989; Westbrook 1987) or that other emotions coexist with CS/D (Westbrook and Oliver 1991), and that satisfaction is an emotional reaction.

Satisfaction and Emotion

The impact of emotions on satisfaction has been well documented. Westbrook (1987) included emotions as antecedents of satisfaction, and found support for this by showing that positive and negative affect were significant predictors of satisfaction over and above the expectancy disconfirmation evaluations. Oliver (1989) hypothesized that emotions formed as a result of attribution processing combine with primary affects (happy/ sad) generated by the goodness or badness of the product experience, to form the summary evaluation of satisfaction. Oliver (1993) modeled satisfaction as the consequence of the traditional expectancy disconfirmation model, but in addition included the antecedents of positive and negative affect (which in turn was influenced by attribution) and equity. Other researchers too have found significant impact of affect on satisfaction (Dube-Rioux 1990; Evrard and Aurier 1994). Westbrook and Oliver (1991) posited that 'a number of qualitatively different affective experiences coexist with, and are related to, the common unidimensional satisfaction continuum.'

Satisfaction as an Emotion

Having shown the significant impact that emotions have on satisfaction, the next issue is whether satisfaction is an emotion. Satisfaction has been defined as an 'emotional response manifested in feelings . . . conceptually distinct from cognitive responses, brand affect and behavioral responses' (Day 1983, p.113) and as an emotional state resulting from a process of combining cognitive evaluations (Sirgy 1984). Woodruff and colleagues (Woodruff et al. 1983; Cadotte et al. 1987) have included emotion as a part of the satisfaction construct. A recent empirical study of various models of post-consumption reactions concluded that the best representation of the data was the conceptualization which included separate positive and negative emotion constructs (Babin et al. 1994). Of particular significance was the observation made by the authors that this model failed to discriminate between satisfaction and positive emotion. Nyer (1997) found that the constructs of satisfaction and joy were so highly correlated that they could not be teased apart into two constructs. So are we to conclude not only that satisfaction is an emotion, but also that satisfaction is merely a variation of some positive emotion?

Shaver et al. (1987) in investigating emotion prototypes found satisfaction in a cluster along

with joy, gladness, happiness, delight etc. forming a subordinate category of joy. Satisfaction-dissatisfaction is one of the measures of the pleasure dimension in the PAD model (Mehrabian and Russell 1974). 'Satisfied' is located right next to 'content', 'pleased' and 'happy' in the various circumplex models of emotions (Russell 1980; Watson and Tellegen 1985). Satisfaction has frequently been measured using scales based on emotion words such as contented, pleased and delighted which according to the Shaver (Shaver et al. 1987) typology are subordinates of the joy category (see Hausknecht 1990 for a review of the various scales used to measure satisfaction). Therefore there is much evidence to show that satisfaction is an emotion.

Antecedents of Emotion

If satisfaction is an emotion (and perhaps merely a variation of the emotion of joy), then what are the antecedents of emotions? If consumption emotions have significant influence on behavior, we need to know how these emotions are formed. Clearly the expectancy disconfirmation model by itself cannot model all the emotions. Various models have been suggested in which emotions are a consequence of the expectany disconfirmation evaluations and in some cases other evaluations including attribution and equity (Muller et al. 1991; Oliver 1989, 1993; Westbrook 1987). The focus of these models has been on customer satisfaction and as such they are limited in their ability to predict and discriminate among the many consumption emotions. A broader approach to the modeling of emotions is therefore called for.

Cognitive Models of Emotion

According to Arnold (1960), emotions occur when events are appraised to be harmful or beneficial. Lazarus (1974) argues that emotions are the result of the cognitive appraisal of an event in terms of it's relevance for the individual's well being and in terms of the available potential to cope with the event. Many models with detailed sets of cognitive appraisals leading to the various emotions have been proposed (Frijda 1993; Ortony et al. 1988; Scherer 1993). Though these appraisals are termed cognitive, they need not involve conscious processing. According to Lazarus (1991) cognitive appraisals are necessary and sufficient for the formation of emotions. However not everyone believes that cognitions are necessary for the formation of emotions. Izard (1993) and Zajonc (1984) believe that affect can be triggered without any preceding cognitive processing. Independent studies have found evidence for the cognition-affect model (Anand et al. 1988, Russell and Woudzia 1986). The use of such models is slowly becoming popular in the marketing literature. Bagozzi (1992) has used this framework to study the self-regulation of attitudes, intentions and behavior while Godwin et al. (1995) have used it to study coping and complaining behavior.

Cognitive Appraisals

An examination of some of the cognitive models of emotion reveal that the cognitive appraisals suggested in these models include (but are not limited to) goal significance (Scherer 1984; also called goal relevance, Lazarus 1991), outcome desirability (Roseman 1984; also called pleasantness, Scherer 1984, Smith and Ellsworth 1985; or goal congruence, Lazarus 1991), and attribution (Lazarus 1991; Roseman 1984, Smith and Ellsworth 1985). Even though this list of cognitive appraisals is by no means complete, space limitations force us to limit our discussion to these three factors. The selection of these three cognitive appraisals is based on the fact that these appraisals have been the focus of much attention in the satisfaction literature. Nyer (97) has examined the emotional consequences of goal significance, outcome desirability and coping potential.

Goal significance is the appraisal of the Significance of an event to the individual. It is therefore not unlike the concept of involvement. The more relevant a situation is to an individual, the more intense are the consequent emotions likely to be. Various studies have shown that involvement has a significant role in satisfaction formation (Evrard 1989; Evrard and Aurier 1994; Mano and Oliver 1993; Richins and Bloch 1986; Singh and Pandya 1991). While the concept of involvement is not included in the traditional expectancy disconfirmation model, it is a

fundamental component of various cognitive models of emotion.

Outcome desirability is an evaluation of how desirable or pleasant the situation is. Pleasant situations lead to positive emotions while unpleasant situations lead to negative emotions.

Attribution can be internal or external and takes place only if the person being credited or blamed for a given situation is perceived as being responsible and in control of the situation. Internal attribution could lead to internally directed emotions such as pride or shame, while externally directed attribution could lead to externally directed emotions such as gratitude or anger directed at some external agent. Though attribution is not part of the expectancy disconfirmation model, it has received much attention in the CS/D literature (Blodgett and Granbois 1992; Folkes 1984; Oliver and DeSarbo 1988; Richins 1983; Singh and Wilkes 1991) and models in which attribution has been added to the expectancy disconfirmation model have been proposed (Oliver 1993). The cognitive models of emotion have the advantage of having appraisals such as attribution as an integral part of the model.

Apart from the three cognitive appraisals listed above, there are many others suggested in the various cognitive models of emotion. Lazarus (1991) for example also includes appraisals such as the type of ego involvement, coping potential and future expectancy and these appraisals further help to discriminate among the various emotions.

The cognitive models of emotion are thus capable of predicting a broad range of emotions and are thus more suited to the study of post-consumption reactions than the traditional expectancy disconfirmation models. Furthermore when modeling post-consumption behaviors such as word-of-mouth and repurchase intentions, the model that includes emotions such as anger and sadness as well as satisfaction can be expected to be significantly superior to the model that has satisfaction as the only predictor.

Hypotheses

The three cognitive appraisals that were discussed earlier were goal significance, outcome desirability and attribution. Desirable outcomes lead to positive emotions while undesirable outcomes lead to negative emotions. This effect of outcome desirability will be moderated by goal significance as explained earlier.

> H1.a Goal significance will moderate the effect of outcome desirability on emotions such as joy, satisfaction and sadness, leading to a significant Goal significance x Outcome desirability interaction for all emotions.

Individuals experiencing an undesirable outcome may attribute the situation internally and consequently experience shame, or they may engage in external attribution leading to emotions such as anger directed at some external entity. Desirable outcomes will lead to neither shame nor anger being experienced. This two way interaction between outcome desirability and attribution will be further moderated by the effect of goal significance as detailed in the previous hypothesis.

> H1.b Emotions such as anger and shame will exhibit a significant Goal significance x Outcome desirability x Attribution interaction.

The two hypotheses above are designed to address the issue of whether cognitive appraisals such as goal significance, outcome desirability and attribution are capable of causing certain patterns of emotions. Once that has been established, the next question to answer is whether using a broad palette of emotions is significantly superior to using satisfaction alone in predicting post consumption behaviors?

> H2. Post consumption behaviors such as complaining behavior and intention to repurchase can be predicted better by using various emotional measures such as anger, sadness, shame and joy in addition to satisfaction.

Having established that cognitive appraisals are antecedents of emotion and that the emotions are predictors of various behaviors, the last step is to show that the emotions mediate the effects of cognitive appraisals on behaviors.

> H3. Emotions mediate the effects of cognitive appraisals on behavior.

METHOD

Subjects were 159 undergraduate students at a large mid-western university who were paid $10 and were entered into a raffle to win a grand prize of $200. A full factorial experiment was designed using the three factors goal significance (high, low), outcome desirability (high, low) and attribution (internal, external) and subjects were randomly assigned to one of the eight conditions. The experiment was administered one subject at a time, and therefore all instructions and manipulations were put down on paper to eliminate any variations across the 159 experimental sessions.

Subjects were seated in front of an IBM compatible computer and informed that they would be evaluating a shortened version of the new Computer Aided Aptitude Test (CAAT), which they were told was designed by the Institute of Psychometrics (IPM) and the National Science Foundation (NSF).

Subjects were then given a realistic looking 'fact sheet' from IPM which repeated the cover story and also included manipulations of goal significance. Subjects in the high goal significance condition were told that the CAAT was currently being used by many firms to evaluate potential employees, and that these employers have reported a high correlation between the CAAT scores and employee performance. The 'fact sheet' went on to say that IPM and NSF expected the CAAT to be used extensively by firms in their recruitment efforts in the immediate future. Subjects in the low goal significance condition were informed that though the CAAT was not designed to be a test of the aptitude of college students, it was being tested on college students to detect any problems with the test. They were further informed that IPM and NSF did not expect the CAAT to be used for many years to come.

Subjects were then given instructions on how to run the test, and a few practice questions were first provided. Subjects took the test unobserved, and the test consisted of 15 randomly selected verbal and quantitative multiple choice questions, some of which were fairly difficult. These difficult questions were included in order to lend credence to the low scores that half the subjects would eventually get. After finishing the test subjects were instructed by the computer to complete questionnaire #1 which included the manipulation checks for goal significance. Once that task was done, the computer displayed the subject's aptitude score in percentile format. Subjects in the high outcome desirability condition got scores ranging between 91% and 94% (a small amount of randomness was introduced to achieve realism), while subjects in the low outcome desirability condition received scores between 61% and 64%. The computer then instructed the subjects to complete questionnaire #2 which included the measures of outcome desirability.

Subjects in the internal attribution condition were given a filler reading task while those in the external attribution condition were handed a sheet of paper which included among other things a 'press clipping' reporting how one researcher had suggested that the CAAT might be an unreliable test. All subjects were then asked to complete questionnaire #3 which included measures of emotion (including satisfaction), word of mouth intention, willingness to use the test in the future and some manipulation checks. Since the experiment attempted to evoke fairly strong emotions in the subjects by providing them with false information, the debriefing exercise took on added importance. The 159 experimental sessions were conducted over a period of a few weeks and, since it was crucial that the real purpose of the study not be known to subjects prior to the end of data collection, the debriefing was conducted after all the data was collected. All aspects of the study including the debriefing had been previously approved by the committee overseeing the use of human subjects. Subjects participating in the study were notified by mail that the aptitude test that they had taken was not a real test and that the score awarded to them was randomly assigned. The letter briefly outlined the purpose of the study and invited subjects who were interested to contact the author for more information.

Measures

Of the various measures used in this study, those being reported here fall into three basic categories: manipulation checks, emotions and post-consumption behaviors. The manipulation of goal significance was measured using the following

two questions. 'How important is it you that you do well in this test?' followed by a 7 point scale ranging from not at all important to very important; and 'How relevant is this test to you?' with a 7 point scale going from not at all relevant to very relevant. The manipulation of outcome desirability was checked using two measures; 'How do you rate your score on this aptitude test?' followed by two seven point scales ranging from very desirable to very undesirable and the other ranging from very good to very poor. The manipulation of attribution was measured using one question which had a 7 point scale ranging from 'I am totally responsible for my score' to 'I am not at all responsible for my score'. Only one question was used to measure the attribution manipulation because of the concern that adding a second question may inject doubts about the cover story.

The emotions included in this study were anger (directed externally), shame, sadness, joy and satisfaction. Subjects were instructed to indicate the extent to which they were experiencing these feelings at that point in time. Anger was measured using unipolar 7 point scales ranging from not at all to very much and anchored on the emotion words angry, furious, annoyed. Similarly ashamed, embarrassed and humiliated were used as measures of shame; happy, joyful and pleased were measures of joy; sorrowful, sad and gloomy were used as indicators of sadness. These emotion words were based on measures identified in various studies of emotion (Holbrook and Batra 1987; Plutchik 1980; Russell 1980 and Shaver et al. 1985).

In measuring satisfaction, it was decided not to use scales using emotion words such as delighted, pleased or contented since the use of such measures could have lead to the dilution of discriminant validity (if any) between satisfaction and joy. Instead, satisfaction was measured using the following three questions. 'How satisfied are you with your score?' followed by a 7 point unipolar scale ranging from not at all to very much; a bipolar 7 point scale ranging from very satisfied to very dissatisfied; and 'I am very satisfied with my score' followed by a 7 point scale ranging from completely agree to completely disagree. These measures were adopted from the list of satisfaction measures reviewed by Hausknecht (1990).

Positive WOM intentions were measured using two 7 point scales in response to the question: 'How would you respond if someone were to ask you for your opinions about the CAAT? The scales ranged from 'not at all likely to say good things' to 'very likely to say good things' in one scale and ranging from 'not at all likely to speak highly' to 'very likely to speak highly'. There were two similar measures for negative WOM. Intention to use the CAAT in the future was measured by getting subjects to respond to the following question on two different scales: 'If a potential employer required you to take an aptitude test and gave you a choice between the traditional paper and pencil test and the new computerized test, which would you be more likely to select?'

RESULTS

Manipulation Checks and Measurement Properties

The manipulations of goal significance and outcome desirability were both successful at the $p=0.01$ level or better. The means of these two variables in the high and low conditions were: goal significance (5.82, 4.01) and outcome desirability (5.83, 2.59). While the manipulation of attribution was significant, it also caused an unexpected outcome desirability x attribution interaction. See Table 1 for mean levels of the attribution variable for various levels of outcome desirability and attribution.

It is clear from Table 1 that the manipulation of attribution failed under conditions of high outcome desirability. In other words subjects who received high aptitude scores continued to attribute their success to themselves despite the external attribution manipulation. While ordinarily such a confounding would have severely limited the usefulness of the data, in this study the focus is not so much on the effect of any particular variable but rather on the larger model according to which emotions are the consequence of cognitive appraisals. Having said that, it should be noted that the interpretation of the effect of the attribution manipulation on the emotions has to be made cautiously.

The correlation matrix of all the emotion

Table 1
Mean of the Attribution Variable

Mean of attribution variable	External attribution	Internal attribution
Low outcome desirability	2.76	5.65
High outcome desirability	5.45	6.10

low numbers indicate external attribution and high numbers indicate internal attribution.

Table 2
Correlations Among the Measures of Emotion

Joy1	Joy2	Joy3	Sat1	Sat2	Sat3	Ang1	Ang2	Ang3	Sad1	Sad2	Sad3	Sha1	Sha2	Sha3
1.00	.													
.87	1.00													
.87	.89	1.00												
.84	.85	.84	1.00											
.87	.87	.86	.87	1.00										
.84	.82	.80	.83	.83	1.00									
-.45	-.45	-.44	-.47	-.48	-.50	1.00								
-.53	-.51	-.53	-.53	-.53	-.54	.84	1.00							
-.47	-.48	-.48	-.52	-.52	-.55	.80	.78	1.00						
-.68	-.67	-.63	-.67	-.68	-.69	.47	.53	.56	1.00					
-.58	-.56	-.51	-.56	-.58	-.58	.41	.48	.53	.82	1.00				
-.67	-.66	-.63	-.67	-.68	-.66	.43	.46	.51	.90	.84	1.00			
-.46	-.44	-.36	-.44	-.44	-.41	.20	.16	.34	.65	.72	.60	1.00		
-.42	-.39	-.32	-.39	-.37	-.34	.05	.03	.21	.53	.58	.55	.80	1.00	
-.42	-.38	-.32	-.40	-.38	-.37	.06	.06	.21	.54	.61	.54	.85	.89	1.00

N = 158

variables is provided in Table 2. An examination of the correlations between the joy and satisfaction variables makes it obvious that satisfaction and joy have failed to achieve discriminant validity. This is of course not unexpected as discussed earlier in this paper. The six indicators of joy and satisfaction were combined to form a new variable named Joysat. All dependent variable scales achieved high levels of reliability with Cronbach α coefficients well above 0.80.

Hypotheses Testing

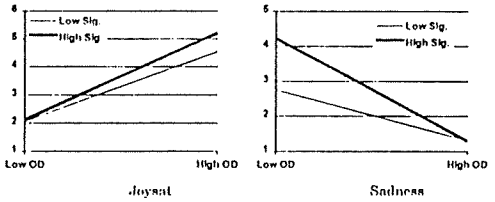
Cognitions as Antecedents of Emotion. A Multivariate Analysis of Variance (MANOVA) was conducted with the four emotions as dependent variables. While anger and shame exhibited significant three way interactions, Joysat and sadness exhibited the hypothesized goal significance x outcome desirability interaction.

Hypothesis H1.a: ANOVA indicated a significant Goal significance x Outcome desirability interaction ($F=5.85_{1,150}$, $p=0.02$) for the combined Joysat scale (see Figure 1). This two-way interaction is due to the fact that under conditions of low outcome desirability subjects in the high and low goal significance groups experienced similar levels of Joysat ($M=2.10$ and 2.05) while under conditions of high outcome desirability subjects in the high goal significance group experienced significantly higher levels of Joysat ($M=5.21$) than the subjects in the low significance condition ($M=4.55$, $F11.75_{1,79}$, $p<0.01$).

The sadness variable exhibited a significant Goal significance x Outcome desirability interaction ($F=27.53_{1,150}$, $p<0.01$ (see Figure 1). Under conditions of high outcome desirability, subjects in both high and low goal significance experienced similar levels of sadness ($M=1.30$ and 1.31) while under conditions of low outcome desirability subjects in the high goal significance

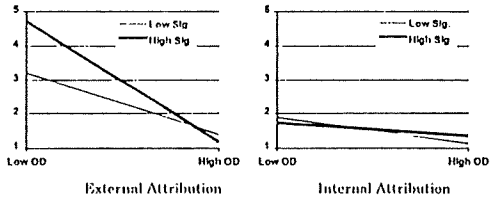
group experienced significantly higher levels of sadness (M=4.22) than the subjects in the low significance group (M=2.74; $F43.44_{1,75}$, $p<0.01$).

Figure 1
Two Way Interactions on Joysat and Sadness



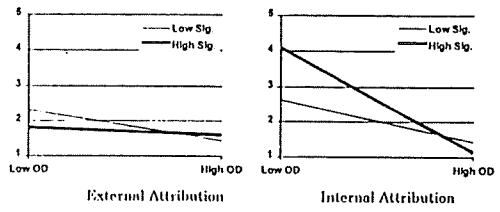
Hypothesis H1.b: ANOVA on the anger variable indicated the presence of a significant Goal significance x Outcome desirability x Attribution interaction ($F=14.66_{1,150}$, $p<0.01$). Two two-way ANOVAs were conducted at the two levels of Attribution. The results are depicted in Figure 2. Under conditions of external attribution a significant outcome desirability x goal significance interaction was present ($F12.90_{1,73}$, $p<0.01$) while the only effect present in the internal attribution condition was a main effect of outcome desirability.

Figure 2
Three Way Interaction on Anger



A significant Goal significance x Outcome desirability x Atribution interaction ($F=12.54_{1,150}$, $p<0.01$) was found for shame (see Figure 3). Two two-way ANOVAs were conducted at the two levels of Attribution. Under conditions of internal attribution a significant outcome desirability x goal significance interaction was present ($F14.08_{1,77}$, $p<0.01$) while the only effect present in the external attribution condition was a main effect of outcome desirability.

Figure 3
Three Way Interaction on Shame



Even with the limitation introduced by the confounding in the manipulation of attribution, it is very evident that the manipulation of cognitive appraisals have succeeded in evoking various patterns of emotions as predicted. All the hypothesized effects have been found to be significant.

Emotions as Antecedents of Behaviors. Satisfaction is often used to predict post consumption behaviors such as word of mouth and repurchase intentions. Will emotions such as anger, shame, sadness and joy significantly add to the predictive power of satisfaction in modeling such behaviors? Since joy and satisfaction failed to demonstrate discriminant validity, the following analysis tests the predictive power of Joysat against the predictive power of all four emotions. A series of regression analyses were performed on the three post consumption behavior variables, positive word of mouth intentions (WOMP), negative word of mouth intentions (WOMN) and intention to use the CAAT test in the future (USE). Table 3 summarizes the results of this analysis. F tests of the nested models indicated that for all three dependent variables, the full model was significantly superior to the restricted model with Joysat as the only predictor. Thus post consumption behaviors are best modeled using a broad range of emotions, not just satisfaction.

Emotions as Mediators of the Effect of Cognitions on Behaviors. Are emotions necessary at all to explain behavior? Cannot the cognitive appraisals by themselves be used to model post consumption behaviors? In other words do emotions mediate the effect that appraisals have on behavior? Step-down analysis using MANOVA

Table 3
Summary of the Regression Analysis

	Positive Word-of-Mouth		Negative Word-of-Mouth		Use in Future	
Independent Variables	Joysat only (1)	All emotions (2)	Joysat only (3)	All emotions (4)	Joysat only (5)	All emotions (6)
	Beta		Beta		Beta	
Joy/Satisfaction	0.68[a]	0.33[a]	-0.49[a]	0.04	0.57[a]	0.20[b]
Anger		-0.20[a]		0.82[a]		0.35[a]
Sadness		-0.23[b]		0.09		0.09
Shame		-0.17[b]		0.12		0.23[a]
Signif. of F	0.00	0.00	0.00	0.00	0.00	0.00
R Square	0.46	0.57	0.24	0.67	0.32	0.46
Adj. R Square	0.46	0.56	0.24	0.66	0.32	0.44
SS. Residuals	172.08	136.62	187.00	82.00	296.03	235.84
df	156.00	153.00	156.00	153.00	156.00	153.00
F test of nested models	$F13.24_{3,153}$ $p<0.01$		$F65.30_{3,153}$ $p<0.01$		$F13.02_{3,153}$ $p<0.01$	

Note.- [a] significant at 0.01, [b] significant at 0.05

was employed (see Bagozzi and Yi 1989 for an explanation of this technique). This analysis takes place in three steps. In the first step it is determined whether the experiment has any significant effects on any of the dependent variables (emotions and behaviors). MANOVA indicates that the cognitive appraisals do indeed have a significant effect on emotions and behavior. Various effects including the three way interaction are significant. In step two the behavior variables are used as dependent variables and the emotions are used as covariates. If the emotions are indeed mediators of the relationship between cognitive appraisals and behaviors, the experiment should have no significant effect on behaviors after their effects on emotion are covaried out. MANOVA indicates that the only significant effect now is a main effect of the goal significance manipulation. In the last step further evidence is gathered for the cognition-emotion-behavior causal model by showing that the alternate cognition-behavior-emotion model does not fit the data. This is done by using the emotions as dependent variables and the behavior variables as covariates. Since the behaviors do not mediate the relationship between cognitions and emotion, the use of behaviors as covariates should not prevent the experiment from having significant effects on emotions. Table 4 summarizes the results of the step-down MANOVA, and it clearly indicates that cognitive appraisals have many significant effects on emotions despite the use of behaviors as covariates. Overall this analysis provides strong evidence proving that emotions mediate the impact

of cognitive appraisals on post consumption behaviors.

DISCUSSION

This paper provides empirical evidence that shows that emotions such as anger and shame are significant predictors of consumer behaviors over and above the predictive power of customer satisfaction. The R^2 statistics in Table 3 clearly indicate that the inclusion of the emotions anger, sadness and shame lead to a significant improvement in the prediction of word of mouth intentions and usage intentions. Therefore marketers interested in influencing customer behaviors such as repurchase and word of mouth have to go beyond measuring and shaping customer satisfaction. They have to also measure and influence other consumption emotions. But how are these consumption emotions formed. While much work has been done to model the antecedents of satisfaction, very little attention has been paid in the marketing literature to the antecedents of consumption emotions. This paper explores one cognitive model of emotions and provides experimental evidence that shows that cognitive appraisals such as goal significance, outcome desirability and attribution are antecedents of various emotions. It is further shown that the effect of cognitive appraisals on behaviors are almost totally mediated by the emotions.

How can the proposed framework to study post consumption emotional responses integrate the rich body of research already done on the antecedents of customer satisfaction? According to the cognitive models of emotion, many appraisals interact to form the emotions. We feel that the expectancy disconfirmation model of satisfaction and the many variations of it (for example different standards of comparison) are part of the appraisal process leading to the evaluation of outcome desirability. This evaluation of outcome desirability then interacts with other appraisals such as goal significance, attribution, coping potential and future expectancy to name a few, to form emotions. Thus it becomes clear that past research into the antecedents of CS/D can easily be incorporated into this broader model of post consumption emotional reactions.

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