ASSESSING THE ROLE OF INTRAPERSONAL AGENTS IN CONSUMER DECISIONS

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The theory of intraperson games propounded by Ding (2007) holds promise for consumer behavior scholars and marketing practitioners. However, the next critical step in theory development is the creation of empirically validated scales for the theoretical constructs of intrapersonal games theory. In this research we operationalize the theoretical constructs of efficiency and equity agents and proceed to develop multi-item measures of these constructs. In creating such scales, this study translates complex mathematical game theoretic constructs to more managerially accessible and useful concepts. We empirically validate the scales using a national random sample of over seven hundred respondents. The validated scales are then used in an empirical analysis of the intrapersonal agents and their relationship to consumer decision making. We specifically apply the theory of intrapersonal games to variety seeking behavior in order to begin to connect the internal agents to actual consumer behavior outcomes and patterns. Our results are of interest to academic scholars and marketing practitioners that would like to use intraperson game theoretic constructs in their strategy formulations.

INTRODUCTION

Variety seeking behavior is a phenomenon that has been widely investigated in the field of marketing. The study of variety seeking behavior and brand switching has yielded various theories and constructs that attempt to capture these concepts in a way that is beneficial to marketers (Bass 1973, 1974; Kahn 1995; van Trijp 1996; Ding 2007). Most of the past research in the area has emphasized external variables such as demographics, branding, pricing, etc. to influence such behavior (Chen 2004; Raju 1980; Acosta 2010). However, very few studies have analyzed possible internal constructs and processes that could have an influence on variety seeking behavior and consumer decisions.

A study conducted by Hans Van Trijp (Van Trijp, Hoyer and Inman 1996) differentiates between internal and external motivations for variety seeking. This study blends internal factors such as need for variety with external factors such as product pricing. The study is successful in identifying some key variables that contribute to a variety seeking decision; however, once again these variables are driven by external factors.

In order to truly capture the dynamic of variety seeking behavior, our research proposes that, a deeper knowledge of the internal variables that drive consumer decisions is warranted. A recent research study by Min Ding (2007) proposes the theory of intraperson games (IPG) as a possible explanation for the factors within an individual's mind that compete to make a decision outcome possible. The theory of intraperson games derives its conceptual inspiration from existing theories of the human mind as well as game theory. Ding (2007) proposes a predictive quantitative model based on his theoretical constructs. Most relevant to the current study, IPG theory draws attention to the *internal* factors that impact consumer variety seeking purchase decisions.

This research develops empirical scales for measuring two opposing IPG constructs theorized by Ding (2007): efficiency agent and equity agent. The efficiency agent strives for

instant gratification while the equity agent considers long term benefits. IPG theory posits that conflict resolution between these two internal agents results in a decision. We develop multi-item scales to measure the strength of these IPG constructs. The scales are then applied in the context of consumer variety seeking behavior. A survey based methodology with a random national sample of over seven-hundred respondents is used to examine the relevance, validity, and reliability of the empirical scales. Assessing the impact of these intrapersonal factors on consumer behavior would not be possible without first understanding the underlying theories and concepts. The following literature review highlights the extant research in variety seeking behavior and IPG theory, as well as where the current study will add to the knowledge. In subsequent sections we discuss the scale validity and reliability issues, the methodology employed, and the results and findings of this study. We conclude by describing our contributions, limitations of the current study, and possible future avenues of research.

PAST LITERATURE

Variety Seeking Behavior

Variety seeking is a desire that often manifests itself in the behavior of brand switching (Givon 1984). Consumer purchase decisions can be broken down into three outcomes: a repeat purchase, a derived switch, or a variety switch (Van Trijp, Hoyer and Inman 1996). Repeat purchases represent a continuation of an individual's previous buying pattern. Derived switching behavior is understood to be the product of extrinsic motivations. A particular store being closed for the night, a friend's product recommendation, impact of brand community, and an item being out of stock would all be considered extrinsic motivations for switching (Quinn and Devasagayam 2005). These externally imposed factors have been well researched and are understood by scholars and practitioners alike. True variety switching behavior differs from derived variety switching in that such actions are the result of *intrinsic*

motivations from within an individual (Van Trijp 1995). This intrinsically motivated behavior is less commonly investigated in the realm of marketing research.

Past research suggests that true variety switching behavior generally occurs for one of three intrinsic reasons: satiation, stimulation, or hedging (Ding 2007). Satiation occurs as an individual experiences diminishing utility with each successive repeat of a behavior (Coombs and Avrunin 1977). Stimulation is when a consumer is excited about, and inexplicably drawn to, the novelty of a certain choice (Berlyne 1970; Faison 1977; Devasagayam and Buff 2008; Sidoti and Devasagayam 2010). Faison explains that consumers can be drawn to a brand simply for a change of pace. The final intrinsic motive for brand switching is hedging (Ding 2007). Hedging is a concept in which a consumer intentionally makes a choice that does not maximize utility in order to achieve balance. One set of researchers (Ratner, Kahn and Kahneman 1999) found that individuals often trade pleasure for variety. Their findings indicated that subjects enjoyed choices in an improving sequence (saving the best for last). It was also found that some of the subjects, after making a less preferred choice, often enjoyed their favorite choice more than ever. Existing literature struggles to capture buying outcomes through an intrapersonal lens. Occurrences such as stock outs, store hours, or referrals (to use the aforementioned examples of extrinsic switching motives) are all managed and monitored by marketers on a regular basis. Marketers display a sound understanding of how strategic decisions regarding such extrinsic stimuli impact their customers and what buying outcomes could be expected. In contrast, marketers have heretofore struggled with predicting buying outcomes that result from *intrinsic* motivations. They have an incomplete picture of intrinsically motivated demand and could therefore be blind to emergent lucrative opportunities or potentially damaging threats. We posit that intraperson games theory could provide the conceptual rationale necessary to correct this deficiency in the literature.

Theory of Intraperson Games

In the seminal work by Min Ding (2007), a theoretical model emerges through a combination of game theory with several famous theories of the human mind. Freud's structural theory is the basis for Ding's understanding of the conflicts that take place within one's mind. Freud (1923) believed that there are three interacting components of the mind. The Id is a self-centered, primitive drive guided by a constant pursuit of pleasure. Another drive, the Superego, counteracts the Id, acting as a cautious voice of reason that has been shaped by the morals of an individual's society. The Ego is an equity drive that attempts to give each drive a chance to show through at different times. IPG theory builds on these components of the mind proposed by Freud.

Ding's research is also shaped by an artificial intelligence theory originally published by Marvin Minsky. Minsky's "Society of Minds" theory (1986) proposed that the human mind is comprised of thousands of agents that execute specialized tasks. These agents are arranged in a hierarchy where the higher agents may choose a lower agent to utilize in a given situation. Ding (2007) took these concepts and integrated them into a model normally used for multi-person game theory.

The resultant IPG model incorporates two higher level agents, efficiency agent and equity agent. The efficiency agent strives for instant gratification, while the equity agent considers long term benefits of the choices made. The theory of IPG distills the idea that human decisions are a result of a battle between these two competing agents. An empirical study conducted by Ding verified the model's aptitude for predicting buying outcomes. The study also provided evidence that effectively measuring an individual's personality could better predict future behavior than a simple analysis of past purchases (Stark and Devasagayam 2010). An informed combination of both behavioral history and personality could actually produce more robust and useful

insights. Ding's research does not provide a comprehensive scale for measuring a consumer's intrapersonal agents. The mathematical model simply shows how each agent would interact in the context of game theory.

The theory of IPG marries theories of marketing and psychology effectively into a mathematically comprehensive albeit complex model. Though elegant, this model largely remains inaccessible to managers and practitioners. The current study would like to make this connection more transparent and accessible to marketing practitioners. This research develops scales for the effective measurement of intrapersonal agents. Once established, we test various hypotheses using the newly created scales to draw new insights into internal decision making processes and the buying outcomes that result from the process.

HYPOTHESES

Based on past literature in IPG and variety seeking behavior as well as our conceptualization of their interrelationship, the following hypotheses were subjected to empirical investigation. As posited by prior research and supported by our own conceptualization, the intrapersonal agents are believed to engage in conflict as two distinct and opposing forces. We propose,

   Hypothesis 1. The efficiency and equity agents will exhibit an inverse relationship.

Consistent with other constructs in consumer behavior, we hypothesize that intrapersonal agents are impacted by consumer characteristics and demographics. Intrapersonal agents are indeed internal constructs; however, the development of such agents must also be informed by the life circumstances of the individual. Based on the findings of previous research in the area significant consumer characteristics are identified and the following hypothesis emerges:

   Hypothesis 2. Consumers' characteristics influence the intrapersonal agents

employed in consumer decision making. The following characteristics have an impact on intrapersonal agents:

A. Age
B. Gender
C. Level of Education
D. Religious Preference
E. Political Views
F. Number of Siblings
G. Household Income

As established in prior research (Van Trijp 1995), there are two distinct types of switching behavior. True variety switching behavior (intrinsically motivated) originates from within the consumer and is less influenced by external factors. IPG theory posits that the efficiency agent is driven by internal and impulsive factors. The efficiency agent, striving to maximize the current utility of the individual, would most likely follow the unknown personal urges that are believed to cause true variety seeking behavior. It is therefore hypothesized that:

Hypothesis 3. A consumer that switches for intrinsic reasons:
   A. is more likely to possess a dominant efficiency agent.
   B. is more likely to possess a weaker equity agent

Derived switching behavior (extrinsically motivated) occurs due to variables in the purchase environment. A pushy salesperson, a promotional price on a new brand, or a friend's recommendation can all be considered extrinsically motivated reasons for engaging in this form of variety seeking behavior (Van Trijp, Hoyer and Inman 1996). The intrapersonal equity agent is similar in that it strives for the equal consideration of *all* factors both short and long term. Given the equitable nature of this agent it should follow that:

Hypothesis 4. A consumer that switches for extrinsic reasons:
   A. is more likely to possess a dominant equity agent.
   B. is more likely to possess a weaker efficiency agent.

Following the logic of the alternative conceptualization of IPG theory we have built up to this point, possessing a stronger agent (whether it be efficiency or equity) will increase the likelihood of that particular agent making the decision in subsequent consumer decisions. Such a situation should yield a relationship and provide some predictive insights into any resultant consumer behaviors.

METHODOLOGY

In order to test the preceding hypotheses, our scales were introduced in a survey that was distributed to the students, faculty, and friends of a college in the Northeast USA during a preliminary phase of this study. Prior to the launch date, a pretest survey was conducted with ten respondents. The pretest was performed using an online survey tool so as to gain insight into the user experience each respondent would have with the survey. With the researchers in the room, the respondents provided immediate feedback which was then recorded and considered during final revisions. In an effort to increase the ease and limit the duration of the survey for respondents, redundant scale items were combined or deleted. Phrasing was corrected and revised to facilitate more accurate responses.

Once the survey passed another brief test round, it was distributed college-wide. The survey was approved by the institutional review board and then administered nationally via the web through an online survey service. The online survey format provided ease of use for the respondents and more convenient and accurate data collection for the researchers (Acosta 2010; Sidoti 2010; Devasagayam et al. 2010; Devasagayam and Buff 2008; Stark 2010). The subsequent analysis is based on a random sample of 755 individuals representing several college campuses scattered across the US.

Sample Profile

A summary of the demographic data is included in Table 1, as is expected in studies utilizing a survey many respondents did not disclose all

demographic information sought. Adjusting for the missing data, the following table refers to percentages of respondents who actually responded to each individual item.

Analyses and Findings

This study proposes that measuring Ding's two distinct and opposite agents in clear and concise terms is possible. By measuring a respondent's agreement with statements of equity and efficiency, conceptual scales were developed to classify consumers as "equity-strong" or "efficiency-strong". Based on this rationale preliminary statements were developed and examined for face validity. The emergent preliminary scale (see Table 2 below) contains ten items in which respondents indicated their level of agreement on a five-point scale from strongly disagree to strongly agree. These items were designed to bring forth the respondent's beliefs and decision criterion in hypothetical situations -- in this case a restaurant visit. The hypothetical scenario of decisions involving a restaurant visit was chosen with the overall sample frame in mind. It is a challenge to find a product that demands involvement, experience, and considered decisions that also applies to a large cross-section of the target population (Stark and Devasagayam 2010). Scale items include either statements that involve instant gratification, lack of compromise, and swift action, or statements that involve trade-offs, long-term consideration, and restraint.

In order to examine the IPG theory's effect on variety seeking behavior, it became necessary to find a scale that effectively measured the motives behind consumer variety seeking behavior. Arriving at a valid scale to measure variety seeking behavior was a relatively easier task. As van Trijp et al. (1996) posited in their research, a consumer can switch for either intrinsic or extrinsic reasons. Their original study included a large customer panel with actual purchase data. With each new purchase, the respondents were asked to enter a pre-coded motive for switching. We proceeded to adapt the motives for switching from the van Trijp et al. study into a scale that asked respondents to

consider reasons why they normally switch. The resulting six-item scale is shown below in Table 3. Item 5 below indicates how likely a consumer is to switch for intrinsic reasons. Items 1-4 represent extrinsically motivated brand switching. Item 6 incorporates the repeat purchase consumer outcome.

Scale Validation

We began by testing the ten-item composite IPG scale which yielded a Cronbach's Alpha of 0.300. As we expected, we found this one-dimensional scale to be inadequate in measuring the multidimensional IPG constructs. Based on Ding's (2007) conceptualization of IPG being a two-dimensional construct, we proceeded to subject the ten-item scale to a confirmatory factor analysis. A principles component analysis based factor solution revealed patterns of both efficiency and equity agent measurement scales. The total variance explained by the factor analytic model is 44.1 percent, which is sufficient for a first time use scale. The principle extraction was restricted to Eigen values of 1 or higher and used item loadings of 0.60 or higher only. The model was further refined by using a Varimax rotation which yielded a three-item efficiency agent scale and a four-item equity agent scale. Three ` o f our scale items did not load significantly on either of the components and were therefore excluded from further analysis.

The scale items that emerged from the factor analysis were analyzed for validity and reliability using a Cronbach's Alpha analysis. The three-item efficiency agent scale reported an Alpha value of .683, which is good for a first time use scale (Nunnaly 1978; Acosta and Devasagayam 2010). The equity agent scale is a four-item scale that also provided a sufficient Alpha value of .634, which is acceptable for a newly developed theoretical scale being used for the first time. Table 4 provides a breakdown of the items that comprise each scale. The three-item "Efficiency Scale" with a mean of 2.9 and the four-item "Equity Scale" with a mean of 3.4

TABLE 1:
Sample Profile (N=755)

Gender	N	%
Male	222	36%
Female	394	64%
Age	**N**	**%**
18-22 years old	443	72%
23-29 years old	27	4%
30-45 years old	54	9%
46 years and over	94	15%
Level of Education	**N**	**%**
Some high school/ High School Graduate	153	25%
Currently in College	306	49%
Undergraduate degree	61	10%
Currently in graduate school	13	2%
Postgraduate degree	86	14%
Household Income	**N**	**%**
$30,000 or less	27	5%
$31,000-$75,000	132	22%
$76,000-$100,000	152	26%
$101,000-$200,000	214	36%
$201,000-$300,000	41	7%
$301,000 or more	21	4%

TABLE 2:
Original Intrapersonal Agent Scale

During a typical visit to a restaurant…

After eating a high calorie entrée, I order dessert.

If I am hungry, I order appetizers before the entrée arrives.

I order as much alcohol as I desire with the meal.

After eating a high calorie entrée, I order a low calorie dessert.

I order what I desire the most, regardless of the calorie content.

If I am hungry, I do not order appetizers but wait for the entrée.

I order items I know I have enjoyed in the past.

After eating a high calorie entrée, I skip dessert.

I worry about the price of my meal.

If I have a working day the next morning, I do not drink at all.

TABLE 3:
Original Variety Seeking Behavior Scale

Overall…

    1. I like to switch brands based on price.

    2. I like to switch brands based on advertising.

    3. I like to switch brands based on convenience.

    4. I like to switch brands based on input from others.

    5. I like to switch brands for variety.

    6. I consider myself a brand loyal person.

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were found to be fairly consistent (both Std Dev = 1.3).

We then subjected our variety seeking behavior scale to a confirmatory factor analysis and Cronbach's alpha reliability analysis. The six-item scale was adapted from an earlier study (Van Trijp, Hoyer and Inman 1996) in an effort to capture a respondent's motivations for brand switching. A three-factor solution was expected as according to theory: a consumer can either buy the same brand as before (repeat purchase), switch for intrinsic reasons (true variety switching), or switch for extrinsic reasons (derived variety switching). The factor analysis confirmed the theory yielding a one-item scale for both intrinsically motivated switching and repeat purchases as well as four-item scale for extrinsically motivated switching. Being a multi-item scale, the four-item scale warranted a reliability analysis. A Cronbach's alpha analysis yielded an alpha value of .649. The total variance explained by the model was 72.9 percent. Table 5 provides a summary of each scale including the means and standard deviations of each item. The one-item "Intrinsic Scale" has a mean of 2.8 and a standard deviation of 1.1. The four-item "Extrinsic Scale" is extremely consistent as further indicated by the descriptive statistics associated with the scale items and the overall scale (M = 3.2, St.Dev = 1). The item "I like to switch brands based on advertising" displayed some inconsistency with the rest of the scale, but we

retained the item in the scale in order to maintain face validity.

To ensure congruence between proposed theory and actual results we subjected the Efficiency and Equity Scales to a bivariate correlation analysis. As hypothesized, the two agents exhibited an inverse relationship significant at the $p < .01$ level, displaying exceptional discriminant validity. This result reinforces the proposed theory that the IPG agents are opposite in nature. The inverse relationship reflects two entities that could conflict in a decision making process with one being more dominant than the other. Essentially, it can be inferred from the results that an individual with a strong equity agent will exhibit a weak efficiency agent and vice versa.

We then proceeded to use the above-mentioned validated scales to test our proposed hypothesis relating the impact of consumer characteristics upon efficiency and equity agents. A one-way analysis of variance (ANOVA) was employed to determine if the intrapersonal agents were impacted by consumer characteristics in a statistically significant manner. As hypothesized: age and level of education had a statistically significant impact on both the efficiency and equity agents (significance level of .01 or less). Religion can be included as a factor that impacts intrapersonal agents as well, however, the significance level relating religion to the equity agent is slightly higher than

TABLE 4:
Intrapersonal Agent Scale Validation

	Components			
	Efficiency	**Equity**	***m***	***sd***
Efficiency Scale (α = .683)			**2.9**	**1.3**
After eating a high calorie entrée, I order dessert.	.82		2.2	1.2
I order what I desire the most, regardless of the calorie content.	.62		3.8	1.3
After eating a high calorie entrée, I skip dessert.*	.81		2.6	1.5
Equity Scale (α = .634)			**3.4**	**1.3**
If I am hungry, I order appetizers before the entrée arrives. *		.62	3.0	1.2
I order as much alcohol as I desire with the meal.*		.69	4.1	1.2
If I am hungry, I do not order appetizers but wait for the entrée.		.68	3.1	1.2
If I have a working day the next morning, I do not drink at all.		.62	3.3	1.4

Note. Results from confirmatory principle components factor analysis with varimax rotation. Loadings less than .60 are suppressed. Cumulative explained variance is 44.1%; $N = 755$. * denotes items that have been reverse coded.

TABLE 5:
Variety Seeking Behavior Scale Validation

	Components				
	Intrinsic	**Extrinsic**	**Repeat Purchase**	***m***	***sd***
Intrinsic Scale				**2.8**	**1.1**
I like to switch brands for variety.	.75			2.8	1.1
Extrinsic Scale (α = .649)				**3.2**	**1.0**
I like to switch brands based on price.		.71		3.6	1.0
I like to switch brands based on advertising.		.57		2.4	1.0
I like to switch brands based on convenience.		.78		3.5	0.9
I like to switch brands based on input from others.		.65		3.4	0.9
Repeat Purchase Scale				**2.9**	**1.1**
I consider myself a brand loyal person.			.80	2.9	1.1

Note. Results from confirmatory principle components factor analysis. Loadings less than .50 are suppressed. Cumulative explained variance is 72.9%; $N = 755$.

desired (p = .126) but relating to the efficiency agent has a p-value of .000. Lastly, gender has an impact on the equity agent. Number of siblings, household income and political views were found to be statistically non-significant.

To further investigate the direction of the relationship between intrapersonal agents and consumer characteristics, bivariate correlation analysis was utilized. The analysis included Pearson correlation coefficients and a two-tailed test of significance. While several correlations were found to be significant from a statistical perspective, the correlations proved to be very weak, with the strongest being -.254. These findings further support the notion that the IPG agents of the internal decision making process are powerful entities that are not easily influenced by external circumstances. However, the factors that were found to have a significant impact warrant further attention and could be useful in future segmentation efforts based on intrapersonal agents. Table 6 below summarizes the consumer characteristics that have a significant impact on the intrapersonal agents.

In applying our interpretation of the theory of intraperson games to a real world consumer behavior we conducted a regression analysis to examine the relationship between the IPG agents and variety seeking behaviors. The resulting regression equations could be utilized for a comparison between the two agents and the two types of brand switching. Using the intrinsic and extrinsic scales as the dependent variables and the intrapersonal agents as the independent variables, we conducted regression analyses. A summary of the relevant results can be found in Table 7.

To test hypothesis 3 and hypothesis 4, a comparison of these regression equations is necessary. Based on the results, we were unable to validate hypothesis 4. Our data does not support the conclusion that the equity agent will dominate in an extrinsic switching decision. However, hypothesis 3 is supported by the regression models.

As hypothesized, a consumer that switches for intrinsic reasons will have a stronger efficiency agent (beta value 0.867) than equity agent (beta value 0.768). Our model supports the hypothesis by exhibiting the efficiency agent's dominance over the equity agent during an intrinsic switching decision. The model also shows great promise with about 78 percent of the variance being explained in the intrinsic switching- efficiency agent relationship and 80 percent in the intrinsic switching- equity agent relationship.

CONCLUSIONS, LIMITATIONS AND FUTURE STUDIES

Figure 1 succinctly summarizes the overall findings of this research. As one can see, this research contributes through the creation and validation of the intrapersonal agent scales which will allow marketers to measure (and perhaps classify) consumers based on their internal decision making agents. Further development of this concept should lead to strategic marketing applications. Our research has shown empirical evidence of two distinct intrapersonal agents, efficiency and equity, which ultimately sway a consumer's decision in one direction or another. The stronger agent is more likely to "win" the battle of internal agents more often. Marketers should be aware of the predictive powers that may arise from future research of these concepts. The scales created in this study are an important first step in drawing value from a deeper understanding of consumer decision making. Our findings emphatically support the validity and existence of Ding's (2007) proposed intrapersonal agents. Even more promising, the theoretically opposite constructs of efficiency and equity agents showed discriminant validity upon scrutiny.

Taking the proposed intrapersonal agents out of a mathematically complex game theory context has served two purposes. First, a previously underdeveloped area of consumer decision making theory can now contribute to a marketer's rich understanding of the consumer which should result in enhanced customer satisfaction. Secondly, marketers in the field

TABLE 6:
Consumer Characteristics that Impact Intrapersonal Agents

	Significance (p-values)
Efficiency Agent	
Age	0.001
Education	0.001
Religion	0.001
Equity Agent	
Age	0.001
Education	0.012
Religion*	0.126
Gender	0.002

Religion is the only variable included in this table that is not significant at a p-value of .05 or lower. It is included as it is very close to the p <.10 threshold.

TABLE 7:
Relevant Statistics from Regression Analysis

	B*	R Square
Intrinsic Switching		
Efficiency Agent	0.867	0.779
Equity Agent	0.768	0.801
Extrinsic Switching		
Efficiency Agent	1.010	0.857
Equity Agent	0.900	0.893

* B represents the unstandardized coefficient.

can now readily validate their own hypothesized relationships concerning internal decision processes of their consumers using our scales. Such validation could offer profound insights and guidance for their marketing strategies, and consequently the influence such marketing strategies have on internal decision making processes of consumers. By utilizing the validated scales generated in this study, practitioners now have the power to expand on

the knowledge we have about the intrapersonal agents and how they impact behavior in the consumer environment.

It is important to note that the influence of life's circumstances such as age, gender, level of income, etc. have on an individual's intrapersonal profile might be minimal but, as previously noted, some are indeed statistically significant and warrant further exploration. The

minimal impact seems to point to a relative independence of the IPG agents from external factors such as age, income, etc. Recognizing this independence is critical to understanding the nature of IPG agents. This finding supports our theoretical conclusions that consumers are born with an inherent set of intrapersonal agents that are extremely difficult to influence. The key for marketers then lies in identifying and aggregating consumers (segmenting) based on the relative strength of their IPG agents. As competition intensifies, product offerings and price points become seemingly homogeneous, and traditional advertising loses effectiveness, marketers may consider appealing more to a consumer's IPG driven internal agents. Considering that all decisions are the result of an individual's perception of and reaction to external stimuli, it would be useful to know which agent favors which optimal mix of value propositions.

Lastly, this study contributes to the marketing literature by beginning to connect the intrapersonal agents to specific consumer behaviors. We discovered that both intrapersonal constructs explain much of the variance that takes place during a variety seeking decision. It can also be hypothesized, for subsequent studies, that the combined interaction of both constructs will have a strong bearing on any decision making situation. It was also found that consumers who are more likely to variety switch for intrinsic reasons are more likely to have a dominant efficiency agent. This finding is one of the most valuable results of this study, as it highlights how the internal decision making process manifests itself in a real-world purchase situation.
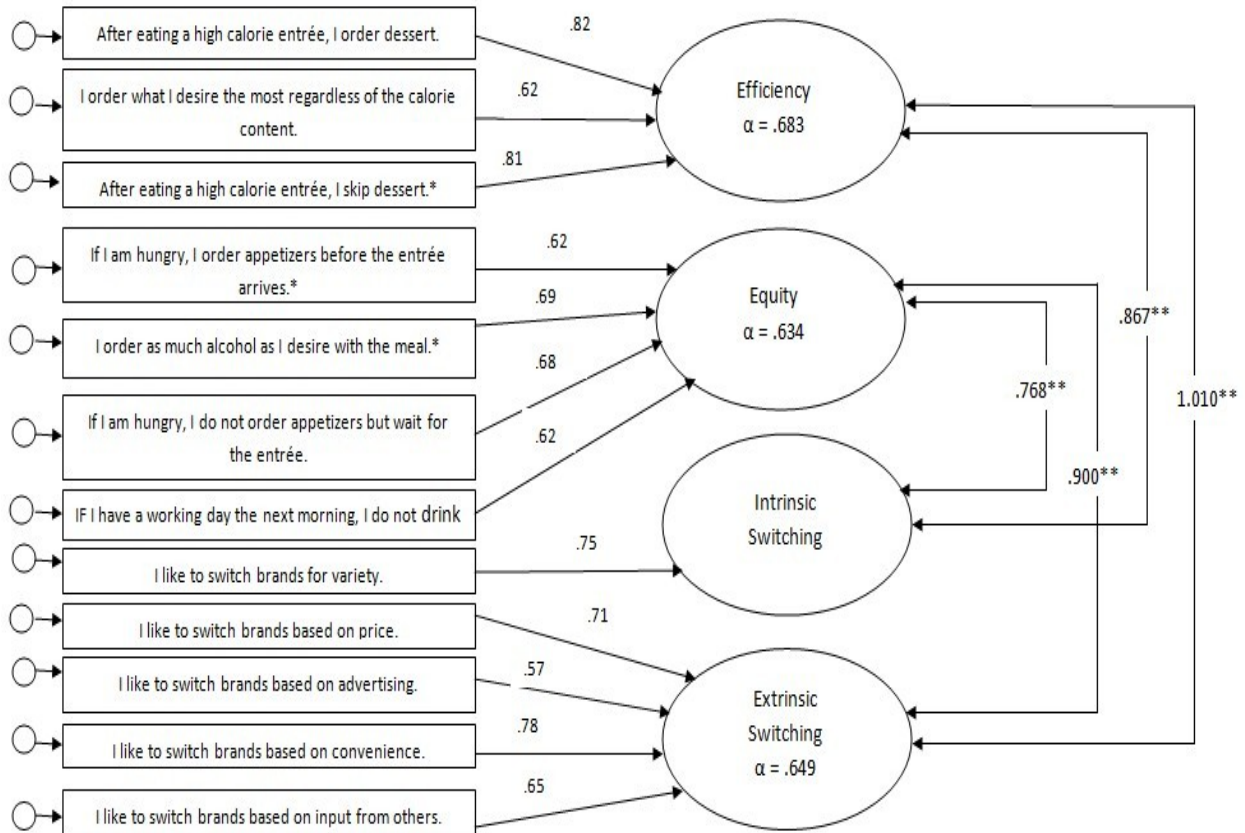
The current study is, of course, not without limitations. Although, we believe intrapersonal agents to be a universal trait inherent in all people, our study was restricted to an American sample. An international sample would have added to the cross-cultural richness of our study. With limited resources and time, it was also impossible to conduct a longitudinal study for differences in intrapersonal agents over time.

The theory of IPG takes on a whole new level of relevance when it can be used by marketers in the field and applied to the actual marketplace. Our study has translated the theory into a more usable and accessible format. We have also shown that behaviors are significantly impacted by the intrapersonal conflict of the two agents. It is now necessary to move forward by determining ways of segmenting consumers based on these intrapersonal agents and then finding common patterns of behaviors and preferences. Does an equity-dominant consumer prefer paying cash rather than buying on credit? If a company's target market seems to be overwhelmingly efficiency-dominant, should their strategies include an impulse display near check-out/register areas? Future research is needed to explore the impact of these intrapersonal agents on consumer behaviors as they relate to various elements of the marketing mix. Intrapersonal agents seem to be minimally impacted by demographics but future studies aimed at isolating the effects of customer characteristics on internal agents will be of great value to marketing strategists. It will also be necessary to test intrapersonal agents across different product categories in order to see how the internal decision making process may change with buying situations. We believe that the extension of our research in the area of organizational buying behavior might be a natural offshoot. In summary, it is our belief that the application of the theory of intraperson games into marketing strategy formulation will yield beneficial results to marketers and improve the quality of value propositions to consumers.

REFERENCES

Acosta, Paul and Raj Devasagayam (2010), "Brand Cult: Extending the Notion of Brand Community," *Marketing Management Journal*, Volume 20, Number 1, pp. 165-176.

Bass, Frank M. "The Theory of Stochastic Preference and Brand Switching." *Journal of Marketing Research* (February 1974): 1-20.

FIGURE 1

Bass, Frank M. and William L. Wilkie "A Comparative Analysis of Attitudinal Predictions of Brand Preference." *Journal of Marketing Research* (1973): 262-269.

Berlyne, D.E. "Novelty, Complexity and Hedonic Value." *Perception and Psychophysics* (1970): 279-286.

Chen, Junsong. "The Influence of Company Name in Variety Seeking." *Journal of Brand Management* (2004): 219-232.

Coombs, C. and G.S. Avrunin. "Single Peaked Preference Functions and Theory of Preference." *Psychological Review* (1977): 216-230.

Devasagayam, Raj and Cheryl Buff (2008), "A Multidimensional Conceptualization of Brand Community: An Empirical Investigation" *Sports Marketing Quarterly, Vol. 17 Issue 1.*

Devasagayam, Raj; Tim Aurand, Kim Judson, and Cheryl Buff (2010), "Building Brand Community Membership within Organizations: A Viable Internal Branding Alternative?" *Journal of Product and Brand Management,* Volume 19, Number 3, September 2010, pp. 210-217.

Ding, Min (2007), "A Theory of Intraperson Games." *Journal of Marketing* (April): 1-11.

Farquhar, P.H. and V. Rao (1976), "A Balance Model for Evaluating Subset of Multiattributed Items."*Management Science,* 528-539.

Fasion, E.W.J. (1977), "The Neglected Variety Drive: A Useful Concept for Consumer Behavior." *Journal of Consumer Research,*172-175.

Freud, Sigmund. "The Ego and the Id." *Complete Psychological Works of Sigmund Freud* W.W. Norton & Company, 1976.

Givon, Moshe. "Variety Seeking through Brand Switching." *Marketing Science* (1984): 1-22.

Kahn, Barbara E. "Consumer Variety-Seeking Among Goods and Services." *Journal of Retailing and Consumer Services* (1995): 139-148.

Minsky, Marvin. *Society of Minds*. New York: Simon & Schuster, 1986.

Quinn, Michael and Raj Devasagayam (2005), "Building Brand Community Among Ethnic Diaspora in the US: Strategic Implications for Marketers," *Journal of Brand Management*, Vol. 13, No. 2, 101-114.

Ratner, Rebecca K., Barbara E. Kahn and Daniel Kahneman. "Choosing Less-Preferred Experiences for the Sake of Variety." *Journal of Consumer Research* (June 1999): 1-15.

Raju, P.S. "Optimum Stimulation Level: Its Relationship to Personality, Demographics, and Exploratory Behavior." *Journal of Consumer Research* (December 1980): 272-282.

Sidoti, Philip M. and Raj Devasagayam (2010), "Credit Cards and College Students: Effect of Materialism and Risk Attitude on Misuse," *Marketing Management Journal*, Volume 20, Number 2, pp. 64-79.

Stark, Matthew and Raj Devasagayam "The Impact of Consumer Characteristics on Intraperson Agents of Variety Seeking Behavior," Proceedings of the Marketing Management Association Conference, Chicago, March 2010, pp. 182-186.

Van Trijp, Hans; Wayne Hoyer, and Jeffrey Inman. "Why Switch? Product Category-Level Explanations for True Variety Seeking Behavior." Journal of Marketing Research (1996): 281-293.

Van Trijp, Hans. "Variety Seeking in Product Choice Behavior: Theory with Applications in the Food Domain." Mansholt Series, Vol. 1. Wageningen, The Netherlands: Wageningen University (1995).