

Volume 11, Number 2

2006

**Allied Academies
International Conference**

**Reno, Nevada
October 19-21, 2006**

**Academy of
Marketing Studies**

PROCEEDINGS

Volume 11, Number 2

2006

Table of Contents

THE SPORTS FANDOM MODEL:
CREATING A HIGHLY IDENTIFIED SPORTS FAN 1
Rachel A. Gordon, University of North Dakota
Mary K. Askim-Lovseth, University of North Dakota

AACSB – INTERNATIONAL MEMBER SCHOOL
PERFORMANCE EXCELLENCE AND MARKET
ORIENTATION TOWARD STUDENTS 3
Kevin L. Hammond, The University of Tennessee at Martin
Robert L. Webster, Ouachita Baptist University
Harry A. Harmon, Central Missouri State University

DESTINATION: SPACE 5
L. Jean Harrison-Walker, The University of Houston—Clear Lake

THE INFLUENCE OF PRODUCT INVOLVEMENT
ON BRAND LOYALTY IN MALAYSIA 7
Hishamuddin Bin Ismail, Multimedia University
Dilruba Talukder, Multimedia University
Mohammad Fateh Ali Khan Panni, Multimedia University

MARKET-ORIENTATION AND
GROWTH STRATEGIES 13
Larry P. Pleshko, Kuwait University

A COMPARATIVE STUDY OF MARKET
ORIENTATION PERCEPTIONS OF BUSINESS
MANAGERS AND ACADEMIC MARKETING
DEPARTMENT CHAIRS 21
Robert Webster, Ouachita Baptist University
Kevin Hammond, University of Tennessee at Martin
Harry Harmon, Central Missouri State University

TRADE SHOW BOOTH ASSIGNMENT
PROCESS RE-ENGINEERING 23
Jessica K. Baumann, High Point University

DO NOT CALL LISTS: A CAUSE FOR
TELEMARKETING
EXTINCTION OR EVOLUTION? 29
Connie R. Bateman, University of North Dakota
JoAnn Schmidt, University of North Dakota

ENTROPY AND LIMITS TO WASTE REDUCTION,
REUSE AND RECYCLING 31
Khalid M. Dubas, Fayetteville State University
Petur O. Jonsson, Fayetteville State University

AN EVALUATION OF SOME ORDINAL PREFERENCE
AGGREGATION RULES 33
Khalid M. Dubas, Fayetteville State University
Inder P. Nijhawan, Fayetteville State University

THE SPORTS FANDOM MODEL: CREATING A HIGHLY IDENTIFIED SPORTS FAN

Rachel A. Gordon, University of North Dakota
Mary K. Askim-Lovseth, University of North Dakota

ABSTRACT

Since the 1990s, the burgeoning sports industry has seen considerable growth in sports facility construction, investment by corporate America, and consumer participation and spending. It can be said that the consumer or fan, is a driving force in this expansion of the sports industry. Sports fans are not just a powerful source of revenue for teams; they bring the atmosphere to the game. To sustain the growth, marketers must find a way to build the fan base. Recognizing what creates fans and develops those fans into loyal followers is important in aiding the development of marketing strategy.

Understanding the process and development that spectators take to become sports fans that evolve into highly identified sports fans is the focus of this paper. An eight-level sports fandom model is developed that illustrates a progressive representation of spectators into highly identified sports fans based on their attitudes, motivations, information needs, level of participation, behaviors, and purchases. The goal of marketing efforts is to move spectators along in the model towards becoming highly identified sports fans. Marketing strategies for each level are discussed which concentrate on group identification, exploitation of large events, the need for smaller teams to find a niche market, and the use of the Internet and other technologies. The focus on these marketing tools is based upon the widespread usage and ease of implementation for spor

AACSB – INTERNATIONAL MEMBER SCHOOL PERFORMANCE EXCELLENCE AND MARKET ORIENTATION TOWARD STUDENTS

Kevin L. Hammond, The University of Tennessee at Martin
khammond@utm.edu

Robert L. Webster, Ouachita Baptist University
websterb@obu.edu

Harry A. Harmon, Central Missouri State University
harmon@cmsu1.cmsu.edu

ABSTRACT

The marketing literature (Barksdale and Darden 1971; Houston 1986; Kohli and Jaworski 1990; Narver and Slater 1990; Jaworski and Kohli 1993; Siguaw, Brown, and Widing 1994) provides considerable theoretical and empirical evidence indicating that greater levels of market orientation (the extent that an organization uses the marketing concept) result in a greater ability of the organization to achieve its objectives. The theory should have applications within higher education; Kotler and Levy (1969a, 1969b) argued decades ago, successfully, for broadening the scope of marketing (and the marketing concept) to include higher education as well as other nonbusiness organizations. Practitioners seem to agree. The behaviors and actions which signify high levels of market orientation are indicated by the Baldrige Education Criteria for Performance Excellence (2005) to be important components of the criteria leading to performance excellence in higher education.

This manuscript reports the results of a national survey examining levels of market orientation toward students exhibited in AACSB member schools. We reword Narver and Slater's (1990) "market orientation" scale and Jaworski and Kohli's (1993) "overall performance" scale for use within the higher education context. We report mean levels of market orientation (customer orientation, competitor orientation, coordination, and overall) for each of eight levels of performance. Additionally, we employ a series of t-tests to identify significant differences between performance levels for the market orientation components. Though previous researchers agree that higher levels of market orientation lead generally to higher levels of performance, they also call for research to help identify the "ideal" levels of market orientation.

We outline the objectives of the study in terms of research questions, complete the analysis that addresses the questions, and present findings. Study limitations and future research directions are provided.

DESTINATION: SPACE

L. Jean Harrison-Walker, The University of Houston—Clear Lake
walker@uhcl.edu

ABSTRACT

The space tourism industry was officially launched three years ago when SpaceShipOne was awarded the coveted \$10 million Ansari X-Prize. The tiny craft made history by (1) entering space twice within two weeks, (2) using a reusable spacecraft capable of carrying three people, with (3) only minimal vehicle replacement between the two flights (Cunningham 2006, Wade 2006). With over a dozen companies building their own sub-orbital spacecraft, sub-orbital tourism should be well underway by 2008. Yet, sub-orbital flights are only the beginning.

Following the success of the Ansari X-Prize, Robert Bigelow, Las Vegas hotelier, announced the “America’s Space Prize” to stimulate U.S. private development of orbital passenger flights. America’s Space Prize is a \$50 million purse to be awarded to the first U.S. company to build, without government funding, a spaceship that can send a minimum of five people into orbit twice within 60 days (Belfiore 2005a, Covault 2004, David 2004).

Spaceships may be taking space tourists into orbit as early as 2010. Anticipating the needs of space tourists, various companies are developing orbital space hotels that may open as early as 2015. This paper profiles the consumer market willing and able to pay for orbital space flights, reviews the essential elements for space destination design and development, summarizes the current thinking about what space tourists will want from the space hotel experience, and discusses the marketing implications of space destination travel.

THE INFLUENCE OF PRODUCT INVOLVEMENT ON BRAND LOYALTY IN MALAYSIA

Hishamuddin Bin Ismail, Multimedia University

hisham@mmu.edu.my

Dilruba Talukder, Multimedia University

dilruba04@mmu.edu.my

Mohammad Fateh Ali Khan Panni, Multimedia University

fkpanni@yahoo.com

ABSTRACT

Brand loyalty is an important topic in today's business world. Building brand is not an easy task. There are several factors to consider. This paper is going to extensively investigate the influence of one of the important factor i.e. product involvement on brand loyalty. Data has been gathered from a private university in Malaysia with a sample size of 300 respondents. The result revealed that product involvement has a significant influence on brand loyalty. The result also revealed that all the dimensions of product involvement such as interest, sign, pleasure, perceived risk are also significantly associated with brand loyalty.

INTRODUCTION

In today's competitive business environments, consumers have been exposed to a large number of brand choice alternatives. Fisher (1985) states "Marketers battling to keep competitors from grabbing off customers complain that there just doesn't seem to be as much brand loyalty around as there used to be." Customers that loyal to a particular brand will be advantageous for an organization as it reduces the marketing cost of doing business. A large number of loyal customers towards a brand is an asset for a brand, and has been identified as major determinant of brand equity (Dekimpe, Steenkamp, Mellens and Abeele, 1997). *This brand equity can ultimately enhance brand loyalty. It is believed that product involvement is the basic factor that can affect brand loyalty. In this regard, the study has investigated the influence of product involvement on the brand loyalty.*

LITERATURE REVIEW

Brand Loyalty

A product or service will be differentiated by its name through the usage of brand. Kotler (1997) defines brand as a name, term, sign, symbol/design or a combination of them, intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competitors. At a very general level, loyalty is something that consumers may exhibit to brands, services, product categories (e.g. shampoo), and activities (e.g. swimming) and stores (Thiele & Mackay, 2001).

Brand loyalty has been described as behavioral response and as a function of psychological processes (Jacoby and Kyner, 1973), which means that brand loyalty is a function of both behavior and attitudes. Jacoby and Chestnut (1978) defined Brand loyalty as biased (i.e., non-random), behavioral response (i.e., purchase), expressed over time, by some decision-making unit, with respect to one or more brands out of a set of such brands, and is a function of psychological (decision-making, evaluative) processes. Park (1996); and Quester and Lim (2003) notified that

among the various factors that would likely to influence the brand loyalty, product involvement is the most prominent one.

Product involvement

Product involvement involves an ongoing commitment on the part of the consumer with regard to thoughts, feelings, and behavioral response to a product category (Miller and Marks, 1996; Gordon, McKeage and Fox, 1998). Product involvement is independent of situational influences (Rodgers and Schneider, 1993; Miller and Marks, 1996). Richins and Bloch (1986) note that consumers with high product involvement would find the product(s) interesting and this would occupy the consumers' thoughts without the stimulus of an immediate purchase.

According to Sherif and Hovland (1961), involvement could originate from the "intrinsic importance" of an issue, which also means its "personal meaning" a person has in a product category. This is referring to the concept of interest that consumer will have involvement found in the product. Bloch and Richins (1983) defined perceived product importance as the extent to which a consumer links a product to salient enduring or situation specific goals.

Based on Kapferer and Laurent (1985) Consumer Involvement Profile (CIP), pleasure is one of the five facets that can be used to explain consumer involvement with a product. As generally accepted, involvement should be examined as a multi-dimensional construct since a single dimension would seem insufficient to capture the richness of the concept. Hedonic values of a product are obtained by customers through the intrinsically pleasing properties of a product (Wirtz and Lee, 2003). Hedonic values are associated with the sensory and experiential attributes of the product (Batra, Rajeev and Athola 1990).

Sign is one of the four facets that is use to better explain the nature of the relationship between a consumer and a product category. Kristensen, Martensen and Gronholdt(1999) notified that sign is an important aspect in explaining the product involvement. Kapferer and Laurent (1985) described sign value of product as the degree to which it expresses itself.

Laurent and Kapferer (1985) mentioned that risk is an important factor in involving with any product. Shiffman and Kanuk(1987) mentioned that consumer involvement and perceived risk are positively associated.

Two important concepts which are product involvement and brand loyalty believed to explain a significant proportion of consumer purchase choices. The studies of Iwasaki and Havitz, (1998); LeClerc and Little, (1997); and Park (1996) have examined the relationship between product involvement and loyalty. Quester and Lim (2003) mentioned that consumers who are more involved with a particular brand are also more committed and hence more loyal to that brand and suggested that high involvement as a precondition to loyalty. Apart from this we can develop a hypothesis: There is a significant influence of product involvement on brand loyalty.

METHODOLOGY

Using the non probability of convenience sampling, data were collected from 300 respondents from a private university in order to provide adequate level of confidence and more accurate picture regarding the influence of product involvement on brand loyalty in the study.

RESULTS AND DISCUSSIONS

In analyzing the demographic factors, the data recorded the highest and lowest percentage of respondents i.e. male and female. Based on the data that have been collected, the number of male and female respondents was close to equal where the male respondents were 50.7 percent while the female respondents represent 49.3 percent. On the average, the age of the sample respondents that

participate in this survey is 21 year old. In terms of race, the highest respondents are from Chinese, since the highest number of Chinese students study in this university.

	Brand Loyalty	Sig. value
Interest	.158**	.006
Pleasure	.151**	.009
Sign	.303**	.000
Perceived risk	-.396**	.000
Product Involvement	.382**	.000
**Correlation is significant at 0.01 level		

From the above table it can be inferred that product involvement has a significant influence on brand loyalty (since the sig value is less than 0.05) which indicates that the hypothesis is supported. From the sig value it can be also observed that all the dimensions or facets of product involvement such as interest, pleasure, sign, perceived risk have significant influence on brand loyalty. Thus it can be concluded that product involvement has a significant influence on brand loyalty. The reason may be that the more the consumers will have involvement with a product the more they will be inclined towards that product and will feel comfortable to use that brand. All the dimensions of product involvement have also significant impact on brand loyalty which means that brand loyalty is significantly influenced by product involvement in all respect. Among all the dimensions of product involvement perceived risk has the highest correlation with the brand loyalty which implies that risk factor has an important impact in building loyalty with that particular brand. The direction indicates that the more the consumers will perceive risk of a particular brand they will less likely to be loyal towards that brand. However, it can be observed that interest and pleasure have very weak correlation strength where the reason may be that interest and pleasure are not important dimension of product involvement in building brand loyalty in caparison to the other factors. However, from the sig value it can be derived that they are also significantly associated with brand loyalty. On the overall there is a fairly high correlation between product involvement and brand loyalty which indicates that the higher the consumers will be involved with a particular brand, the more they will be loyal towards a particular brand.

MANAGERIAL IMPLICATIONS

This study attempts to provide an insight of the influence of product involvement on brand loyalty in Malaysia. Building brand loyalty is not an easy task. Most importantly, the factors that can affect brand loyalty have to be taken into consideration. It is believed that product involvement is one of the most important dimensions in building brand loyalty. In this study, all the dimension of product involvement such as interest, pleasure, sign and perceived risk have been taken into consideration in order to find out their impact on brand loyalty. Product involvement and brand loyalty are two important concepts believed to explain a significant proportion of consumer purchase choices. The managers or the marketers should concentrate on the product involvement since the research findings confirmed that people who involve with a product will more likely to loyal towards a particular brand name. The study also reveals that all the dimension of product involvement has significant influence on brand loyalty.

LIMITATIONS AND FURTHER STUDY

Due to the time and cost constraints, students in this research were confined only to one private university, with a sample size of only 300 respondents. This may limit the generalizability of the findings as the brand choices decisions of students in that private university may differ from those other universities in the country. Another limitation of this research is the inclusion of only one product which is sport shoe. Different product may have different response from the students and we have to bear in mind that not all students owns a sport shoe. The study should be replicated with larger sample and covering a broader area so that the findings can be generalizable nationally. Another area for further research is to analyze the role played by each of independent variables in this study which are product involvement, perceived quality and brand trust in more details.

REFERENCES

- Batra, R. and Olli T. Athola (1990). Measuring the Hedonic and Utilitarian Sources of Consumer Attitudes. *Marketing Letters*, 2 (2), 159-70.
- Bloch P.H. and Richins, M.L. (1983). A Theoretical Model for the Study of Product Importance Perceptions. *Journal of Marketing*, 47, 69-81.
- Dekimpe, M.G, Steenkamp, J.E.M, Mellens, M, Abeele, P.V. (1997). *Decline and variability in brand loyalty. International Journal of Research in Marketing*, 5(14), 405-20.
- Fisher, A.B., (1985). Coke's brand-loyalty lesson, *Fortune*, 44-6.
- Gordon, M.E., McKeage, K., Fox, M.A. (1998). Relationship marketing effectiveness: the role of involvement, *Psychology and Marketing*, 15(5), 443-59.
- Iwasaki, Y., Havitz, M.E., (1998). A path-analytic model of the relationships between involvement, psychological commitment, and loyalty. *Journal of Leisure Research*, 30 (2), 256-80.
- Jacoby, J., Kyner, D.B. (1973). Brand loyalty vs. repeat purchasing behavior. *Journal of Marketing Research*, 10, 1-9.
- Jacoby, J., Chestnut, R. (1978). *Brand Loyalty: Measurement and Management*. New York: John Wiley & Sons.
- Kapferer, J.-N., Laurent, G. (1985). Consumer involvement profiles: a new practical approach to consumer involvement. *Journal of Advertising Research*, 25(6), 48-56.
- Kristensen, K., Martensen, A., Gronholdt, L. (1999). Measuring the impact of buying behaviour on customer satisfaction. *Total Quality Management*, 10 (4/5), s602
- Kotler, P. (1997). *Marketing Management: Analysis, Planning, Implementation and Control*. Upper Saddle River, New Jersey, Prentice Hall International.
- LeClerc, F., Little, J.D.C. (1997). Can advertising copy make FSI coupons more effective? *Journal of Marketing Research*, 34, 473-84.
- Miller, D.W., Marks, L.J., (1996). The moderating effects of enduring involvement on imagery-evoking advertisements. *American Marketing Association*, 121-8.
- Park, S.-H. (1996). Relationships between involvement and attitudinal loyalty constructs in adult fitness programs. *Journal of Leisure Research*, 28(4), 233-50.
- Quester, P., Lim, A.L., 2003, "Product involvement/brand loyalty: is there a link?", *The Journal of Product & Brand Management*, 12, 1, 22-38.
- Rodgers, W.C., Schneider, K.C. (1993). An empirical evaluation of the Kapferer-Laurent consumer involvement profile. *Psychology and Marketing*, 10(4), 333-45.

-
- Richins, M.L., Bloch, P.H. (1986). After the new wears off: the temporal context of product involvement. *Journal of Consumer Research*, 13(2), 280-5.
- Sherif, M. and Hovland, C.L.(1961). *Social Judgment; Assimilation and Contrasts Effects in Communication and Attitude Change*. New Haven, CT: Yale University Press
- Thiele, S. R. and Mackay M.M. (2001) Assessing the performance of brand loyalty measures. *Journal of Service Management*, 15 (7), 529-546.
- Wirtz, J. and Lee, M.C., (2003). An examination of the quality and context-specific applicability of commonly used customer satisfaction measures. *Journal of Service Research: JSR*. Thousand Oaks, 5(4), 345.

MARKET-ORIENTATION AND GROWTH STRATEGIES

Larry P. Pleshko, Kuwait University
larrypleshko@hotmail.com

ABSTRACT

The paper presents an empirical examination of the relationship of an organization's market orientation to the growth strategy employed within firms. A sample of chief executive officers in the financial services industry is taken. Three product-growth and three market-growth strategies are included. The author finds that firms with high levels of market-orientation are more likely than expected to use both current and new markets in addition to both current and new products, for growth. Conversely, firms with low levels of market-orientation are more likely than expected to be more conservative, focusing on current products and current markets.

INTRODUCTION

The study of the market-orientation concept has been one of the main streams of academic research over the past decade. Specifically, most efforts have investigated whether those firms with higher levels of market-orientation have higher performance (c.f. Perry and Shao 2005, Singh and Ranchhod 2003). The literature suggests that, in addition to a direct effect of market-orientation on performance, there is an indirect influence through innovative activities (Kirca et al 2005). Therefore, it is important to investigate how and when market-orientation and innovation are related. One aspect of innovation is the strategy a firm uses to achieve growth, both as a firm and at the product-market level. Product-market growth strategies were outlined many years ago, when Ansoff (1957) proposed the growth typology combining current and new products with current and new markets. However, except for a few studies, research into these strategies waned over the years (Doyle and Wong 1998, Heany 1983; Weber 1976). Renewed interest has been given to innovation and growth, mainly due to the recognized relevance to portfolio management and market orientation (c.f. Wise and Pierce 2005, Im and Workman 2004). *The purpose of the current study is to investigate whether firms with different market-orientations utilize different product-market growth strategies.* The study samples chief executives at credit unions; a segment of the financial services industry which has seen major changes in recent times (Kaushik and Lopez 1996; Jefferson and Spencer 1998; Wilson and William 2000, Allred and Addams 2000).

MARKET ORIENTATION AND INNOVATIVE ACTIVITIES

Theory suggests that market-orientation and innovation work together to influence performance, or at least that a market-orientation works through innovation (Kirca et al 2005). Im and Workman (2004) find a relationship between new product success and market-orientation and that creativity is relevant to the relationship. Narver and Slater (1990) suggest that those firms exhibiting high levels of market-orientation might generate better performances than rivals due to the ability to take advantage of opportunities presented in their markets. Supporting this view are Kumar et al (2002) who report that firms with higher levels of market orientation exhibit higher performance, especially when pursuing a differentiation strategy rather than a cost leadership strategy. Tiger and Calantone (1998) speculate that, among first-movers, those firms more adept at generating market knowledge will be able to achieve better performance because they will have better access to information about consumer preferences. Similarly, the selection of an appropriate

competitive strategy for target markets is based on market resources, which affect the firm's overall marketing strategy and future performance (Hooley et al 2001).

Therefore, much of the research investigating the market-orientation concept suggests that firms, which have better market knowledge are often more innovative and will show higher performance. Plus, higher levels of market-orientation should result in more market knowledge related to all areas: consumers, macro-environment, as well as competitors. Also, since part of the performance effect from market-orientation is supposedly translated through the methods utilized for innovation; it is relevant to investigate how market-orientation is related to the growth strategies employed by firms (c.f. Kirca et al 2005).

The type of innovative activity of interest has varied across studies, including the use of creativity or new product teams, with the resultant effects being particular to each study (Christensen 1997). Many alternative conceptualizations pertaining to growth are available, including those characterized as having a product focus (Booz et al 1982; Heany 1983), a marketing mix focus (Weber 1976), a product-market focus (Ansoff 1957), and a product-market-technology focus (Abell 1980). The product-market perspective on growth is particularly relevant to marketing manager, as growth concerns for products and markets are constantly scrutinized.

Ansoff (1957) suggests the safest growth option is to adopt a market penetration/saturation strategy whereby a firm gains more usage from existing customers and also gathers a few new customers from competitors. A slightly riskier proposal may be to adopt the market development strategy of gaining new channels, new geographic areas, or new types of customers for the current products/services of the firm. The next level of risk is said to be when the firm produces entirely new products, different versions of existing products, or different quality levels of existing products to be sold to its current markets. The highest risk strategy is suggested to be a diversified approach where new products are developed for new markets within a related product-market, of course. It follows that product-market growth strategies can be generally classified into two groups: (i) growth realized through a focus on products or (ii) growth achieved through a focus on markets (Bradley 1991, Tull and Kahle 1990, Ansoff 1957).

INDUSTRY/SAMPLE DESCRIPTION

A sample of chief executives from credit unions is taken in the financial services industry. Data for the study are gathered from a statewide survey in Florida of all the credit unions belonging to the Florida Credit Union League (FCUL). Membership in the FCUL represents nearly 90% of all Florida credit unions and includes 325 firms. A single mailing was directed to the president of each credit union, all of whom were asked by mail in advance to participate. A four-page questionnaire and a cover letter using a summary report as inducement were included in each mailing. Of those responding, 92% were presidents and 8% were marketing directors. This approach yielded 125 useable surveys, a 38.5% response rate. A Chi-squared test of the respondents versus the sampling frame indicates that the responding credit unions are significantly different from the membership firms based on asset size ($\chi^2=20.73$, $df=7$, $p<.01$). Further analysis of the sample indicates that the smaller asset groups are under-represented.

MEASURES

Product-market growth strategy is based on Ansoff's (1957) conceptualization. Product growth strategy is actually service growth with three possibilities for the firm's emphasis: [1] existing services, [2] new services, or [3] both existing and new services.

Market growth strategy also has three possibilities of focus for the firm: [1] existing market segments, [2] new market segments, or [3] both existing and new market segments. For each of these two questions, the firms are self-classified in relation to their attempts at fostering growth by

checking the box next to the appropriate descriptor. Respondents could check either of [1] we emphasize services (or markets) presently offered by the firm, or [2] we emphasize services (or markets) new to the firm. Respondents could also check both of the boxes, indicating both new and current services (or markets) are used for growth. Those firms which did not respond to the questions were counted as missing and deleted from the analysis. For the product growth question, one hundred seventeen respondents answered the question with 54% (64/117) classified as focusing on existing services, 14% (17/117) classified as emphasizing new services, and 30% (36/117) classified as using both new and existing services in their efforts at growth. For the market growth question, one hundred thirteen respondents answered the question with 65% (74/113) classified as focusing on current segments, 11% (13/113) classified as emphasizing new segments, and 23% (26/113) classified as targeting both new and existing market segments in their efforts at growth.

Market-orientation (MARKO) is conceptualized as including two factors common in the marketing literature: customer focus and competitor focus (Kirca et al 2005, Kohli et al 1993, Narver and Slater 1990). The respondents are asked to evaluate their perceptions of the firm's efforts in the marketplace on a scale from (5) true to (1) not true, across seven items. The items are subjected to principal axis factoring which indicates two factors explaining 69.7% of the original variance. The items for each of the two factors are summed separately. Reliabilities of 0.789 and 0.834 are found for the two factors using coefficient alpha. An overall indicator of market-orientation is constructed by summing these two factors. MARKO has a possible range from eight to forty with a mean of 31.38 and a standard deviation of 4.51. For the analysis, the firms are divided into two groups based on MARKO using a median split. This new variable, MO, is categorical and shows that 48% (59/123) of firms are classified as having a low market-orientation and 52% (64/123) are classified as having a high market-orientation.

ANALYSIS/RESULTS

Two cross tabulation analyses are performed to determine if firms with different levels of market-orientation (high vs. low) utilize different strategies for growth: one for product-growth and one for market-growth. The cross tabulation is shown in Table 1 for market-orientation and market-growth. As noted, the Chi-square test supports a significant relationship ($p=.025$). Closer examination reveals that firms having lesser market-orientations are more likely than expected to use current markets for growth, while those firms having higher market-orientations are more likely than expected to utilize both new markets and current markets in their growth efforts. Thus, the market oriented firms are more aggressive concerning market growth while the less market oriented firms are less aggressive.

MO	MGROW			total
	current	new	both	
low	42	5	7	54
high	32	8	19	59
total	74	13	26	113

Xsq= 7.38, p= .025

The cross tabulation is shown in Table 2 for market-orientation versus product growth. As noted, the Chi-square test supports a significant relationship ($p=.028$). Closer examination reveals that firms having lower market-orientations are more likely than expected to use current products for growth while those firms having higher market-orientations are more likely than expected to utilize both new products and current products in their growth efforts. Thus, again, the market-oriented firms are more aggressive concerning product growth while the less market oriented firms are less aggressive.

	PGROW			
MO	current	new	both	total
low	37	7	11	55
high	27	10	25	62
total	64	17	36	117

Xsq= 7.14, p= .028

DISCUSSION

The paper presents an empirical examination in the financial services industry on the relationship of market-orientation to product and market growth strategy. The authors find that the more market-oriented firms are more aggressive in their growth strategies, being more likely than others to broaden their perspective by, not only looking at current buyers, but also targeting new markets. These more market-oriented firms are also likely to find new services for their buyers. The finding is in line with what is to be expected of market-oriented firms: they are more aggressive or innovative towards their markets (Kirca et al 2005). Because of greater knowledge of markets and better understanding of their buyers, these higher marketing-oriented firms are supposedly better able to satisfy the wants of their buyers. This, in turn, should lead to higher performance for the firm. This is in contrast to credit unions with a lesser market-orientation. These lower market-oriented firms are more likely to stay closer to home in growth efforts, emphasizing current buyers and products. This may not hurt the lesser market-oriented firms when considering product-growth strategy, but it may hinder both profits and share when considering market-growth strategy. Thus, it may be important for these lesser market oriented firms to open their eyes to other markets and segments to maintain both share and profits with other more aggressive firms in the industry.

REFERENCES

- Abell, D.F. (1980), *Defining the Business: The Starting Point of Strategic Planning*, Englewood Cliffs, NJ: Prentice-Hall; 1980.
- Allred, A.T. & H.L. Addams (2000), "Service Quality at Banks and Credit Unions: What Do Their Customers Say?", *International Journal of Bank Marketing*, 18(4/5), 200-208.
- Ansoff, H.I. (1957), "Strategies for Diversification", *Harvard Business Review*, 30, 113-124.
- Ansoff, H.I. (1965), *Corporate Strategy*, New York: McGraw-Hill.

- Booz, Allan, & Hamilton Inc. (1982), *New Products Management for the 1980s*, New York: Booz Allen and Hamilton Inc; 1982.
- Bradley, F. (1991), *International Marketing Strategy*, UK: Prentice Hall.
- Christensen, C. (1997), *The Innovator's Dilemma*, Boston: Harvard Business School Press
- Doyle, P. & V. Wong (1998), "Marketing and Competitive Performance: An Empirical Study", *European Journal of Marketing*, 32(5/6), 514-535.
- Heany, D.F. (1983), "Degrees of Product Innovation", *Journal of Business Strategy*, 3, 3-14.
- Hooley, G.J., G. Greenley, J. Fahy, & J. Cadogan (2001), "Market-Focused Resources, Competitive Positioning and Firm Performance", *Journal of Marketing Management*, 17, 503-20.
- Im, S. & John P. Workman, Jr (2004), "Market Orientation, Creativity, and New Product Performance in High-Technology Firms", *Journal of Marketing*, 68 (April), 114-132.
- Jefferson, C.W. & J.E. Spencer (1998), "A Note on Credit Union Reserve Ratios and Asset Growth", *Applied Financial Economics*, 8(5), 455-459.
- Kaushik, S.K. & R.H. Lopez (1996), "Profitability of Credit Unions, Commercial Banks, and Savings Banks: A Comparative Analysis", *American Economist*, 40(1), 66-79.
- Kirca, A.H., S. Jayachandran, & W.O. Bearden (2005), "Market Orientation: A Meta-Analytic Review and Assessment of Its Antecedents and Impact on Performance", *Journal of Marketing*, 69 (2), 24-41.
- Kohli, A.K., B. Jaworski, & A. Kumar (1993), "Markor: A Measure of Market Orientation", *Journal of Marketing Research*, 30 (November), 467-477
- Kumar, K., R. Subramanian, & K. Strandholm (2002), "Market Orientation and Performance: Does Organizational Strategy Matter?", *Journal of Applied Business Research*, 18(1), 37-50.
- Narver, J.C. & S.F. Slater (1990), "The Effect of Market Orientation on Business Profitability", *Journal of Marketing*, 54 (October), 20-35
- Perry, M.L. & A.T. Shao (2005), "Incumbents in a Dynamic Internet Related Services Market: Does Customer and Competitive Orientation Hinder or Help Performance?", *Industrial Marketing Management*, 34 (6), 590
- Singh, S. & A. Ranchhod (2003), "Market Orientation and Customer Satisfaction: Evidence from the British Machine Tool Industry", *Industrial Marketing Management*, 33, 135-144.
- Tiger, L. & R.J. Calantone (1998), "The Impact of Market Knowledge Competence on New Product Advantages: Conceptualization and Empirical Examination", *Journal of Marketing*, 62(4), 13-29.
- Tull, D.S. & L.R. Kahle (1990), *Marketing Management*, New York: Macmillan Publishing Company.
- Wilson, J.S. & J.M. William (2000), "The Size and Growth of Banks: Evidence from Four European Countries", *Applied Economics*, 32(9), 1101-9.
- Wise, R. & A. Pierce (2005), "Finding New Paths to Growth by Managing Brand Portfolios well", *Journal of Business Strategy*, 26 (4), 10-12.
- Weber, J.A. (1976), *Growth Opportunity Analysis*, Reston, Virginia: Reston Publishing Company.
- Wyner, G.A. (2005), "Got Growth?", *Marketing Management*, 14(2), 8-10.

SPOUSE'S JOINT DECISION-MAKING: IS LEVEL OF INITIAL DISAGREEMENT IMPORTANT?

Cheryl B. Ward, Middle Tennessee State University
cward@mtsu.edu

ABSTRACT

Though family dynamics are continually changing, the primary decision unit in society is still the family and gaining an improved understanding of spousal decision making may have implications for people who market to couples. As a result, there has been a recent resurgence in research interest regarding family purchase-decision dynamics. Studies have shown that spouses may adjust influence strategies used in purchase decisions over time. Marketers may also become more effective at guiding personal selling activities and gain insight into targeting communication messages to spouses as the spousal decision making process becomes better understood. For instance, a better understanding of how spousal influence is used in family purchase decisions can help marketers to identify influential spouses and to better target communication marketing messages to the spouse who may have primary decision making authority regarding the product decision in question.

Previous research has found that product category and gender preference intensities played a significant role in the final decisions made by spouses in joint product decisions. Specifically, decisions in across category product selections were more likely to favor the males' preferred product than the females'. In addition, males were more likely to gain their preferred product choice in a joint decision when the males and females expressed strong preference intensities for differing product choices in a joint decision exercise. However, this study did not address the issue of whether results hold true under differing levels of initial disagreement. Research has shown that different levels of disagreement do impact the level of conflict spouses believe to be present in the joint purchase decision, though it was significant for across category choices only. Do these findings also affect the final choices of spouses in the purchase process?

This study extends the understanding of the joint decision making process and determines whether previous findings hold true when the data is partitioned into two groups based upon the spouses' initial level of disagreement (high or low) regarding likelihood of product purchase prior to interaction with his/her spouse. Specifically, this study extends earlier research to determine the effect of differing levels of spousal disagreement on spouses final purchase decisions. Do results significantly change for the effect of product category and gender preference intensities under high versus low levels of initial disagreement? Thus, family purchase decisions are examined in light of product category, differing individual preference intensities, spouses' preference intensity for jointly purchased products, past history, and level of disagreement. A 2x2x2x2 ANCOVA with covariate explores spouses' predispositions in joint purchase decisions. Of specific interest is the impact of high versus low levels of initial disagreement as it modifies main effects in final decisions. Results indicate that decisions were more likely to favor males in across category choices when a high level of disagreement was present and when spouses had differed in preference intensities between possible product choices under high levels of disagreement.

Implications of these findings may have importance for marketers as they attempt to better understand the decision making process for the most important consumption unit in society—the family. Having a better understanding of the decision process may help retailers and salespeople to better target their communication messages to prospective buyers. The effect of gender roles in the decision process may also have significance for marketers as they deal with the dyadic unit of husbands and wives in purchase situations.

A COMPARATIVE STUDY OF MARKET ORIENTATION PERCEPTIONS OF BUSINESS MANAGERS AND ACADEMIC MARKETING DEPARTMENT CHAIRS

**Robert Webster, Ouachita Baptist University
Kevin Hammond, University of Tennessee at Martin
Harry Harmon, Central Missouri State University**

ABSTRACT

The market orientation strategy is based upon the acceptance and adoption of the marketing concept. The market-oriented organization recognizes the importance of coordinating the activities of all departments, functions, and individuals in the organization to satisfy customers by delivering superior value. The market-oriented organization continually monitors customer information, competitor information, and marketplace information to design and provide superior value to its customers. Theory and empirical research suggest that higher levels of market orientation result in a greater ability of the organization to reach its objectives, in other words, higher levels of organizational performance. This paper extends the current research on market orientation by determining and reporting perceived market orientation levels within college and university schools of business from the marketing department level and comparing these levels of market orientation to levels previously reported for businesses. Marketing department chairs within schools of business in the United States were surveyed by way of a national mail survey. All of the marketing department chairs were from four year colleges or universities. 95 responses were received from the surveys mailed. The market orientation scores of these marketing department chairs were compared to scores reported in the literature for business managers. The paper presents details of the research process, findings, statistical inferences, and discusses the implications of the research for schools of business and marketing departments.

TRADE SHOW BOOTH ASSIGNMENT PROCESS RE-ENGINEERING

Jessica K. Baumann, High Point University

ABSTRACT

The purpose of exhibiting at trade shows is to help exhibitors gain publicity, watch competition, gain leads and network ("Effective Trade," 2002). Because expenses are high, companies need to spend wisely, receive good booth locations and enjoy a high level of services from the exhibit managers.

Exhibition management has much to gain from having satisfied exhibitors because 75 percent of show revenue comes from exhibit space rental (Hughes, 2004).

There are better locations on a show floor than others. Some say that a prime location is near restrooms, seminar rooms, food tables and influential exhibiting companies such as the association sponsoring the trade show ("Effective Trade," 2002). Also, wide aisles are another attractive location on the show floor because they get less crowded. However, it is known that the newest exhibitors are stuck with the worst locations, including dead zones (Adams, 2001).

Currently, a large truck show's booth assignment is a two-tiered process (Anonymous, personal communication, January 23, 2006).

In comparison to most trade show exhibit location criteria, the truck show's process involves too much preference for companies that have the most prestige. Therefore, the truck show should re-engineer its booth assignment process

INTRODUCTION

Trade shows can benefit exhibiting companies and exhibit associations. According to the Center for Exhibit Industry Research, a lead that was gained from an exposition costs 62 percent less than using another resource ("Effective Trade," 2002). For exhibit associations, they make \$3.3 million on average from rental space (Tormohlen, 2006).

The purpose of exhibiting at trade shows is to help exhibitors gain publicity, watch competition, gain leads and network ("Effective Trade," 2002). The effectiveness of gaining leads from exhibitions is 38 percent (Lynn, n.d.).

However, with all the benefits comes cost. According to a survey of CEO's and marketing managers, trade shows were accounted as being substantial costs for companies (Boyd, n.d.). Lynn (n.d.) says that exhibiting is second to direct sales for companies' allocated marketing budgets. The price of booth space accounts for one third of the direct costs of exhibiting, according to surveys from the Center for Exhibition Industry Research (Adams, 2003). Because expenses are high, companies need to spend wisely, receive good booth locations and enjoy a high level of services from the exhibit managers.

Exhibition management has much to gain from exhibitors being satisfied from their exhibiting experience because 75 percent of show revenue comes from exhibit space rental (Hughes, 2004).

The purpose of this paper is to analyze a truck show's booth assignment process and its need for re-engineering.

BOOTH LOCATIONS

Location to most exhibitors is important (McCall, 2006). According to the results of a professional association's exhibit location survey, 54 percent felt as if location impacted their flow of traffic. Moreover, some of the same participants also exhibited at larger trade shows and said that location is an even more important factor at big shows because high dollars are being spent (Anonymous, personal communication, March 15, 2006).

There are some locations that are more preferred than others. No two exhibitors will view a trade show floor in the same manner (Adams, 2001). Usually, what occurs is that small companies fight against being stuck in bad locations on the floor, while big companies try to get the best locations (Benini, 1994). Therefore, if requesting booth locations is allowed, exhibitors are advised to view the floor plan and choose a desired booth space ("Effective Trade," 2002).

However, Adams (2001) warns to not put too much emphasis on location. Also, other experts caution that location alone is not what decides the success of a trade show and that there are also other factors involved (McCall, 2006). Therefore, heeding these warnings, exhibitors should do their best to request good locations but should not put all the weight of a trade show's success or lack thereof on location alone.

There are better locations on a show floor than others. However, not all will agree on which locations are the best. Some say that a prime location is near restrooms, seminar rooms, food tables and influential exhibiting companies such as the association sponsoring the trade show. Basically, anywhere there is a lot of traffic ("Effective Trade," 2002).

Yet others say a location to the right of the room is favorable because people tend to go that direction, rather than migrate toward the left. Also, wide aisles are another attractive location on the show floor because they get less crowded. And further, other exhibitors find that right in the middle of the hall is the place to be (Adams, 2001).

It is known that the newest exhibitors are stuck with the worst locations. Some of these poor locations are close to dead-end aisles, obstructing columns and loading docks ("Effective Trade," 2002). Other undesirable locations are in the back of the hall and under stairs (Pappas, 2003).

An exhibitor at the professional association said that she had prior experience at a trade show where there was only one entrance and her booth was located at the end of the building. She had food samples. By the time that people made their way back to her booth, they did not want to eat more food (Anonymous, personal communication, March 15, 2006).

Furthermore, bad locations include dead zones. If an exhibitor were to draw a triangle from the entrance, with the point of the triangle closest to the entrance, there would be two sections on the left and right side that would have lower traffic. The reason is that attendees would have a tendency to avoid the front corners as they would start from the entrance and make their way to the back of the hall (Adams, 2001).

According to Adams, another section to avoid is the zoom zone, which is directly at the entrance of a hall. Because attendees walk in the room and quickly go past the few exhibits in the front as they make their way to the middle. On the other hand, many exhibitors view the entrance as being the best location on the show floor (Adams, 2001). Yet, according to the survey conducted by exhibitors at the professional association trade show, 69 percent said that the entrance was not necessarily a prime location on the show floor, while 31 percent said that it was (Anonymous, personal communication, March 15, 2006).

BOOTH ASSIGNMENT PROCESSES

There are various methods used to assign exhibit space, starting from the most simple, first-come first-served, to the most complicated, based on seniority points.

The point system involves giving priority to those that contribute the most to the association. Each show is different and considers various criteria. The exhibitors that benefit the most are those that have exhibited for the most years, while new-comers do not have many points earned and therefore do not get the better locations (Maiorino, n.d.). Though this may encourage repeat exhibitors among companies of long-standing, it may also discourage new exhibitors from exhibiting again because of lack of points.

According to a survey of exposition managers 65 percent of respondents said they use a seniority point system, 21 percent use objective criteria, 18 percent use an on-site space draw by appointment, 16 percent use an on-site space draw first-come-first-served, 14 percent use subjective criteria, 14 percent use other methods, seven percent use an online space draw first-come-first served, four percent use an online space draw by appointment and one percent apply a lottery (Crum, 2004).

A variety of shows assign the exhibitors that are more superior first and then assign positions to the rest of exhibitors (Benini, 1994). Yet, the results of the survey completed by the professional association exhibitors shows that company reputation should not be considered as location criteria. The participants unanimously disagreed or strongly disagreed against the idea that company reputation should be considered in location assignment (Anonymous, personal communication, March 15, 2006).

TRUCK SHOW'S BOOTH ASSIGNMENT PROCESS

Currently, a large truck show's booth assignment process involves the following: they consider prior years of exhibiting only if contract is received by a specific date, size of space rented, date the application was received, financial and credit standing, degree of dealer interest in the company's products, length of time the applicant has been in operation, percentage of similar services or products in entire show, applicant's reputation among the dealers and geographic market served (Anonymous, personal communication, January 23, 2006).

According to the truck show's event manager, the booth space assignment is a two-tiered process. First, assignments are based on seniority points as long as the applications are submitted before the deadline date. Then the second tier involves first-come first-served by date of receipt (Anonymous, personal communication, March 10, 2006).

The truck show's event manager mentions that the cost for the space is based on a straight cost per square foot, no matter where the booth is located on the exhibit floor (Anonymous, personal communication, March 10, 2006).

One exhibitor at the truck show mentioned that every year her company has exhibited they have never been placed in any of their requested booth locations. Therefore, she felt that the request section in the contract was not being honored and was pointless (Anonymous, personal communication, January 24, 2006).

BOOTH ASSIGNMENT PROCESS RE-ENGINEERING

After much analysis, the truck show should re-engineer its booth assignment process. The price structure should change and some of the assignment criteria.

The most important modification is that the truck show should have a different price structure based on where the booths are located. Since there is an exhibitor perception that booth location does matter, then exhibit management should base the cost of space on this viewpoint. Management could make more money and exhibitors would feel that they were getting a fair deal. Those that have better locations pay for them and those in not as prime locations are able to pay less. This also can allow smaller companies to exhibit at a lower cost and larger companies will no longer be given better locations and not have to pay for it.

A targeted survey concerning space rental, needs to be sent out to the exhibitors. Having the opinions of the exhibitors can help exhibit management evaluate what the show's exhibitors perceive as being the best locations on the show floor. Also, extensive external research should be conducted, which can help gauge how the price structure should be based.

Another change that ought to occur is that the criteria for assigning space should be more reasonable. In comparison to most trade show exhibit location criteria, the truck show's process involves too much preference for the companies that have the most prestige, which violates the majority of exhibitors' wishes. Also, the criterion involved is too subjective. Criteria should be based on what the exhibitors can change such as how much space they rent or if they are sponsoring other activities, and thus contributing more to the trade show. Not on how big the companies are or how well liked they are by the attendees.

Also, the show floor needs to be designed so that industry groups are placed in particular locations. This way, exhibitors will know the area where they will be located and can better choose desired locations. For example, suppliers need to be on one end of the room and manufacturers on the other end.

The re-engineering process will only be successful if management is completely behind the effort. It will need complete dedication on the part of the exhibit managers and exhibitors alike. Some exhibitors, especially the ones that have had good locations all along, may not be happy with the changes. But this is where exhibit managers could lower the price for the unfavorable locations and keep the rate the same for the better locations. Or offer other motivations such as discounts for companies that go further and participate in other trade show activities; for instance, hosting a party.

CONCLUSION

In closing, trade shows and exhibit space location are important in business today. Trade show exhibitors perceive that location matters. And exhibit managers have a lot to gain if exhibitors are satisfied with their services. A large truck show has a process that involves unfair pricing and unnecessary subjective criteria. Those that have more clout get the better locations, but do not have to pay a higher price. The large truck show needs to re-engineer to better fit the needs of all exhibitors, especially its price structure. This way the quality of locations will match the cost.

REFERENCES

- Adams, C. (2003, February). Selecting Booth Space. *Exhibitor Magazine*, pp.13-14.
- Adams, C. (2001, January). The Art of Choosing a Booth Space. *Exhibitor Magazine*, 23-24.
- Benini, C. (1994, October). Trade Shows: Working the Floor. *Meetings & Conventions*, 29(11), 63-66.
- Boyd, M. (n.d.). Trade Show Dollars Disappear Every Second – Spend Them Wisely. Riverstone Marketing [Online]. Available: <http://www.theriverstone.com/pages/tradeshows.html> [2006, April 20].
- Crum, R. (2004, November 29). Exhibitors are show managers' best friends. *Tradeshows Week*, 34(48), 40-44.
- Effective Trade Show Planning. (2002). *Entrepreneur* [Online]. Available: <http://www.entrepreneur.com/amex/article/0,5742,302022,00.html> [2006, March 15].
- Hughes, M. (2004, March 8). New Revenue Streams Lie Beyond the Booth. *Tradeshows Week*, 34(10), 4.
- Lynn, J. (n.d.). A Little Respect Please!!! *Trade Show Marketing* [Online]. Available: <http://www.tenonline.org/art/mm/9607.html> [2006, March 15].

- Maiorino, T. (n.d.). Booth-Space Selection Q&A. *Exhibitoronline* [Online]. Available:<http://www.exhibitoronline.com/topics/help.asp> [2006, March 15].
- McCall, M. (2006, March 6). Choosing a Booth: Golden Triangle or Zoom Zone? *Tradeshow Week*, 6.
- Pappas, C. (2003, January). Lost in Space. *Exhibitoronline* [Online]. Available: <http://www.exhibitoronline.com/exhibitormagazine/reprints/articledetail.asp?ID=010325> [2006, March 16].
- Tormohlen, D. (2006, February). Show organizers predict a doubt-digit increase for booth sales in 2006. *EXPO Strategies & solutions for trade show, convention and corporate event management* [Online]. Available: <http://www.expoweb.com/boothsales/2006febmwrevenue.htm> [2006, April 10].

DO NOT CALL LISTS: A CAUSE FOR TELEMARKETING EXTINCTION OR EVOLUTION?

Connie R. Bateman, University of North Dakota
connie.bateman@mail.business.und.edu
JoAnn Schmidt, University of North Dakota
joann.schmidt@nisc.coop

ABSTRACT

Are you one of the more than 122 million consumers registered on the National Do Not Call registry as of April 2006? (www.ftc.gov, Apr 21, 2006) If you have registered, are you one of the 92% claiming fewer calls are being received? (www.harrisinteractive.com, Feb 23, 2006) Are you aware the telemarketing industry is larger and more profitable today than before the Do Not Call List went into effect?

This paper will review secondary data from various governmental, corporate, media and trade journal sources and reveal a critical issue in the telemarketing industry where consumers were concerned about their right to privacy and disgruntled with the growing number of invasive telemarketing sales calls received in their homes. The information will reveal how quickly consumers have taken advantage of the tool provided by the Do Not Call List to stop these unwanted calls and how the various State and Federal Governments as well as the Courts have handled the Do Not Call laws along with the telemarketing industry's reactions. Implications for government, businesses and consumers are made after reviewing the information found as well as providing an attempt to allow the reader to make a prediction about future legislation regarding other privacy issues, such as do not email lists, based on the information.

Consumers seem to have won the day with the restrictions imposed on telemarketing practices regarding live telephone calls. Is this just the beginning of such consumer popularity choices or will the governments and courts decide not push their fate in keeping a balance between a company's right to do business and the consumer's right to privacy?

ENTROPY AND LIMITS TO WASTE REDUCTION, REUSE AND RECYCLING

Khalid M. Dubas, Fayetteville State University
kdubas@uncfsu.edu
Petur O. Jonsson, Fayetteville State University
pjonsson@uncfsu.edu

ABSTRACT

Entropy could be defined as the disorder or waste that exists in a system. According to the second law of thermodynamics, the entropy of a closed system always increases over time. An open system that interacts with its environment may reduce its entropy by increasing entropy of the environment. This is how biological systems decrease their entropy (increase their order) as they interact in their ecosystem. Animals, for example, create disorder in their environment as they try to preserve themselves.

Living things are open systems that interact with their environment. Open systems can reduce their entropy so to reduce entropy, make systems more open to their environment. However, it would be better to reduce the entropy of the whole system since as one living system increases the entropy of its environment; it creates positive or negative external effects on other living things.

People produce waste as they carry out the various activities involved in their daily lives. In fact, there is post-industrial and post-consumer waste that creates entropy in the environment. The ecosystem can absorb waste to some extent but after a particular level of waste, there are negative effects for the inhabitants on earth. Hence, there is a greater awareness to reduce waste, reuse, and recycle. However, there are limits to waste reduction, reuse and recycling. This article sheds some light on these limits and recommends ways to better utilize resources within the marketing and economic system.

AN EVALUATION OF SOME ORDINAL PREFERENCE AGGREGATION RULES

Khalid M. Dubas, Fayetteville State University

kdubas@uncfsu.edu

Inder P. Nijhawan, Fayetteville State University

inijhawan@uncfsu.edu

ABSTRACT

Many situations arise when a group of decision makers have to evaluate several alternatives to select the best alternative. Individual preferences have to be measured and combined into a group preference function in order to make the best selection among the several available alternatives. Some examples are recruitment and selection for hiring; personnel evaluation for retention, promotion, or personnel reduction. Often a market comprises of several customers who choose among several alternative products. Marketers in designing new products are concerned in measuring and aggregating customer preferences in concept testing and product development for the target market.

There are many methods for aggregating individual preferences among several alternatives. These methods include ordinal or cardinal measurement of preferences. This article describes and evaluates five methods of aggregating individual preferences measured on an ordinal scale. These methods are: Condorcet, Copeland, Plurality, Approval Voting, and Borda. Unfortunately these five techniques may yield different results for the same data set. So we need to identify the best method. This article evaluates each choice rule (aggregation method) in terms of four conditions of "reasonableness." These conditions were first systematically considered by Arrow to identify a general preference aggregation method.

INTRODUCTION

Customer satisfaction is a primary concern for most marketers who measure and aggregate consumer preferences for alternative product concepts in choosing the optimal product to develop and market (Kuehn and Day 1962). The marketer who more successfully meets customer needs is likely to have higher customer retention. Choice rules are used in choice simulators to predict market shares of various products. Green and Krieger (1988) note that very little has been written about the applicability of various types of buyer choice rules and sensitivity analyses. They state that much more research is needed on both comparing alternative buyer choice rules and in developing sensitivity procedures to evaluate market characteristics. Dubas, Dubas, and Atwong (1999) identify several possible problems in concept testing for new product development due to problems in preference aggregations methods.

Gillett (1991) presents a data set and shows how two methods of aggregating individual preferences (plurality method and the Condorcet criterion) can be used in selecting the most preferred product concept among several candidates. He demonstrates that selection of a product concept based on the top-box of responses (plurality method) may lead to selecting the choice of the minority of respondents. This is the top-box paradox. Gillett suggests that the top-box paradox can be resolved by using the Condorcet criterion which shows the majority's choice. However, Gillett does not point out that even the Condorcet criterion may suffer from serious problems such as

intransitivity which exists when the group prefers A over B, B over C, and C over A even when individual preferences are transitive.

A reasonable preference aggregation method or choice rule should be based on individual preferences and represent the majority's choice. In 1951, Kenneth Arrow identified four conditions that a "reasonable" aggregate choice function should satisfy. He published a General Impossibility Theorem that claimed that all aggregation choice rules may violate one or more of his four conditions thus indicating potential arbitrariness in preference aggregation. This article discusses Arrow's four conditions and evaluates five preference aggregation methods on Arrow's four conditions. This article utilizes Gillett's data set to evaluate five different choice rules. The article also presents how utility is measured by each aggregation method and whether the Condorcet criterion is satisfied or not.

ARROW'S GENERAL IMPOSSIBILITY THEOREM

Arrow (1963, first edition 1951) describes four conditions that a "reasonable" choice rule should satisfy. These four conditions are quite general and most people would consider these conditions as the minimum requirements of "reasonableness." Arrow proved that when there are three or more alternatives to be evaluated by three or more individuals then an aggregation method can not be found which would simultaneously satisfy all four of his conditions of "reasonableness." Therefore, attention has shifted to "workable" aggregation methods and an evaluation of the strengths and weaknesses of each aggregation method. Before Arrow's four conditions are presented it is useful to define the concept of individual preference ordering which will be utilized in one of the four conditions.

An ordering is reflexive, transitive, and complete. Reflexivity states that an alternative reflects itself i.e., $A=A$. This condition is so mild that it is a requirement of sanity. The other two conditions are considered as requirements of rationality. Preference ordering among three alternatives A, B and C is transitive wherever $A > B$ and $B > C$ then $A > C$. Similarly, if $A=B$ and $B=C$ then $A=C$. Preference ordering is complete whenever given two alternatives A and B, an individual either prefers A over B or B over A or is indifferent between the two. In other words completeness requires that an individual knows his mind.

Arrow's (1963) four choice rule conditions can be described as follows (Sen 1984):

Condition U: (Unrestricted domain): The domain of the collective choice rule must include all logically possible combinations of individual orderings.

Condition P: (Weak Pareto Principle or Unanimity): For any pair of A and B, if every individual prefers A to B then so does the group.

Condition I: (Independence of Irrelevant Alternatives): The group's choice between any two alternatives A and B depends only on the individuals' orderings of A and B.

Condition D: (Non-dictatorship): There is no individual i such that whenever i prefers A to B so does the group irrespective of the preference orderings of the other individuals of the group.

General Impossibility Theorem: Conditions U, P, I, and D are inconsistent for three or more alternatives and three or more individuals in the group.

The theorem asserts that every aggregation method (choice rule) violates one or more of the four conditions stated above for some sets of individual orderings. It is in this sense that these conditions are inconsistent. The theorem does not assert that every aggregation method will violate one or more of these conditions for every set of individual orderings. Therefore, an aggregation method may satisfy all four conditions for some sets of individual orderings but not for all sets. It

is in this sense that the sensitivity of choice rules should be evaluated that is the probability with which a choice rule violates one or more conditions for various data sets.

It should be noted that if there are only two alternatives to be evaluated then the Condorcet method satisfies all four conditions for all data sets of individual orderings. Dubas and Strong (1992) demonstrate the applicability of the Arrow's theorem for three alternatives and three individuals. They also discuss some preference aggregation methods for three different data sets. We will now evaluate five aggregation methods in the light of Arrow's theorem to identify which conditions are violated by each method. It should be noted that condition P is satisfied by all five aggregation methods to be discussed in this article.

CHOICE RULES

Five different methods for determining group preference functions (GPF) are evaluated in this article. These aggregation methods are: (1) the Condorcet, (2) the Copeland, (3) plurality, (4) approval voting, and (5) the Borda method (see Black 1958, and Fishburn 1973, 1986).

DISCUSSION

If all individuals have identical preferences then all five methods will yield the same group preference function. However, as individual preferences diverge, each method may yield different group preference functions. Each of the methods suffers from one or more weaknesses. The Condorcet method uses pair-wise simple majority data and reveals the majority's choice. However, if the group's preference function is not transitive then it will yield varying results depending on the order of the pair-wise comparisons. The Copeland method, considers more information about the individual preferences than the Condorcet method and provides a transitive group preference function. The plurality method considers only first choice data and can choose an alternative as the group's choice which in fact may be the choice of a minority of individuals. Approval voting method evaluates alternatives in terms of whether they are acceptable or unacceptable. The Borda method uses rankings of all alternatives. Approval voting requires less information from the voter than the Borda or the Copeland method. Approval voting tends to perform poorly when the number of alternatives increases. Generally aggregation methods which use more information about the individual preferences tend to do better than those methods which require less information (Bordley 1983). Therefore, the Borda method may be the "best" of the five methods compared since it requires most information from the respondents. However, collecting rank ordered data becomes difficult as the number of alternatives increases. We recommend that a decision maker use more than one method of evaluation in obtaining group preference functions. In fact, these five methods give different perspectives about the nature of group preferences as they are derived from the individual preferences. For example, the individual level information given in Table 1 can be transformed in five different ways into group's preference as shown in Exhibit 2. Each aggregation method utilizes the same data from Table 1 but uses only certain type of information about alternatives (e.g., first-choice, pair-wise comparison, approve/don't approve, rank, etc.) and a transformation (means of aggregation) to generate a group preference function.

Future researchers should study the probability with which certain "defects" arise in applying the various aggregation methods i.e., the sensitivity of these rules to violate assumptions of "reasonableness." Other interesting questions include the impact of different parameters of the aggregation methods on the outcome. These parameters include the number of alternatives, the number of respondents, the degree of conflict among the preferences of different individuals, the shape of the preference functions, the number of individuals who are eligible to participate versus the number of individuals who actually participate in a particular study, etc.

REFERENCES

Available upon request.

