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The Effects of Sampling on Brand Perception

A Multidimensional Scaling Approach

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Abstract- In this article, the authors examine the power of sampling in changing brand perception towards food products. A total of 73 participants rated their perceived similarities of 10 popular chocolate brands, of which 30 participants tasted a sample of the brand Ritter Sport. A perceptual map was created from the aggregate ratings of each group, which showed no relevant differences between the control group and the treatment group, an independent samples t-test proved lack of significant difference.

Keywords – sampling, brand perception, in-store promotions, multidimensional scaling, difference ratings

I. Introduction

Free sampling campaigns are common phenomena in supermarkets, shopping malls (Freedman, 1986), and at rock concerts and athletic events (Meyer, 1982). Additionally, more creative sampling distribution methods have been developed, such as inserts in magazines of perfume, toothpaste and dishwashing detergent scents (Fine, 1985). Increasingly, sampling activities have been carried outside retail facilities. As such situations do not provide direct purchase opportunities, it is clear that marketers rely on some sort of longer-term effect of sampling which relates to their brand in particular. What is not clear though is whether sampling campaigns actually cause such long-term changes in consumer behavior.

Sampling is thought to be a strategically excellent method to introduce unusual products, and drive market leaders off their position (Freedman, 1986). US companies with such mentality expended around $ 2 billion US on sampling campaigns in the year 2004 (Zweibach, 2005). This is a staggering amount as relatively little academic research has been conducted on this topic (Heiman et al., 2001).

The majority of academic work done in the field of sampling focused on short-term effects and on changes in purchase behavior. Little studies linked perception and attitude, and changes thereof to product sampling. Our work attempts to provide a deeper understanding of the latter.

Through the research described in this article, we evaluate the effectiveness of free samples as brand positioning tool. More specifically, we examine whether free samples of food products cause changes in consumers' perception of the sampled brand relative to other brands in the same category.

II. Literature Review

Studies have shown that about 70% of consumers try and in-store sample if offered, of these, 37% will purchase the product consequently (Lindstedt, 1999). Additionally, in-store samples can increase sales of the product on sample by potentially 300% on the day of the campaign (Moses, 2005).

Research on free direct mail samples have found that such programs accelerate sales through earlier repurchase of sampled products, negatively affect paid trial purchases of the brand and have a positive result on purchases by people who otherwise would not consider the brand (Bawa and Shoemaker, 2004). Furthermore, the same authors found that sales can be influenced by sampling for as long as 12 months after sampling. A study done by McGuinness, Brennan and Gendall (1995) indicated that when samples were distributed in combination with coupons, more trial occurred than when each was presented separately.

As for in-store sampling, academic work concluded that food samples increased immediate sales of the same category only for small purchase amounts and only for varieties other than the one sampled (Lammers, 1991). In research comparing obese and non-obese consumers, the prior were found to increase their purchases in the store after sampling food products (Steinberg and Yalch, 1978). Finally, some work has been conducted to assess changes in brand loyalty caused by retail promotions, this work included in-store samples (Gadenk and Neslin, 1999). The authors of that paper developed a model to estimate the effect of retail promotions on brand loyalty.

Several models of free sampling effects have been proposed, among which, a model to determine the optimum level of product sampling to use for new products (Jain, Mahajan and Mullen, 1995) and a model describing the short- and–long-term outcome of free samples Heiman et al., 2001).

Not long ago, established was that distracting consumers while sampling raises the likelihood of them choosing the sampled product (Nowlis and Shiv, 2005). Prior to that, research found that different sequences of sampling and exaggerated advertising give different outcomes (Marks and Kamins, 1988). Above all, sampling was concluded to change consumers' perception towards products (Bettinger, Dawson and Wales, 1979). They observed that product trial in form of sampling of a product perceived as childish changed that perception towards a more adult image of the tried brand. The conducted laboratory experiments did not however, include other brands, so we might ascribe the changes in perception to the entire product category. Some light needs to be shed on this particular issue.

III. Hypothesis

The main purpose of the undertaken research is to test whether sampling (trial) of a product has the potential to be used as a positioning and differentiation tool by marketers. This question is attempted to be answered through evaluating whether tasting a food product changes the samplers' perception of the brand sampled. To isolate and evaluate potential changes in brand perception caused by sampling of existing products, we propose the following hypothesis:

H: Sampling of a food product causes a change in consumers' perception of its brand relative to other brands.

In our research we took the liberty of making some assumptions. Firstly, we assumed that we can accurately measure perception of consumers using direct similarity judgments of brand pairs. Secondly, we assumed that the sequence of the stimuli in each pair does not influence the similarity rating of that pair. For instance, we assume that the difference between stimulus A and B is the same as that of B and A. Lastly, we also assumed that similarity ratings are not influenced by whether they occur in the beginning or later section of the survey; the sequence of pairs has no influence on the ratings itself. Though it might be that at the end of the survey, fatigue or boredom sets in and consequently influences the ratings.

IV. Research Design

For the purpose of proving or disproving the hypothesis, ten brands of chocolate were selected. The researchers decided to test food products because food is an experience product which requires little other effort from consumers than simply tasting to evaluate the product; that is, no other attributes than taste need to be evaluated to from a reasonable perception of the product and brand. Chocolate is a product category which offers instant gratification and sensory pleasure, so sampling will quite likely evoke feelings. The included brands are: Ferrero Rocher, Kinder Bueno, KitKat, Milo, Cadbury, Van Houten, Ritter Sport, Crunch, Dove and Frey. These ten brands used in the research were selected based on their similarities in taste and variety, wide availability in general supermarkets and their differing price ranges.

V. Research Tools

Package images of the 10 chocolate brands were taken to be used as stimuli in similarity ratings. We chose this number of different brands as the minimum advised number is 8 (Malhotra, 2007), and we found that more than 10 brands requires too much effort and time from participants. All 45 possible combinations of the 10 brands were formed and displayed on 45 different PowerPoint slides (see appendix A). Furthermore, a survey was constructed, firstly in English, translated into the Thai language by a native speaker and retranslated into English by a near native speaker of both languages to ensure consistency (see appendix B). Pictures of packages were used as stimuli rather than merely the brand name or pictures of the actual product as subjects are not native English (or other Western language) speakers, so simply written brand names are prone to misinterpretation. Furthermore, as consumers are more likely to be familiar with the product package rather than other alternatives, this would again be the preferred choice. The reason for using pictures of the product packages rather than the actual packages is due to time limitations of participants of the survey and ease of display using PowerPoint.

VI. Sampling method

A total group of 73 people were recruited on a large university campus in Bangkok, Thailand. These 73 people were divided into a control group of 43 people and a treatment group of 30 people. This convenience sample was taken at random depending on people's willingness to participate. As compensation, each subject was given a bar of Ritter Sport after completion of the survey.

The control group was asked to look at each combination of brands and rate their similarity on a 5-point Likert scale (from 1: very different to 5: very similar) based on their own criteria. The subjects were exposed to each brand combination for approximately 10 seconds. The treatment group was first given a small portion of Ritter Sport chocolate to taste and shown a picture of the package they tasted at that point. It was explicitly pointed out that Ritter Sport was the brand sampled. After this, the treatment group went through the same process as the control group.

VII. Data Analysis

The similarity ratings were aggregated per brand combination and recalculated to represent distances rather than similarities (max similarity rating + 1 – similarity rating = distance rating). These distances were put into SPSS and analyzed using ALSCAL MDS procedures. This was done separately for both the aggregate of the control group and the aggregate of the treatment group. The resulting perceptual map for the control group is displayed in Figure 1 and for the treatment group in Figure 2 (for a full ALSCAL output, see appendix C).

Assessment of the reliability of the perceptual map shows an R-square value of 0.858 and 0.819 for the control group and treatment group respectively. This accepts the map as reliable as values of 0.6 and above are acceptable (Malhotra, 2007). The reason for selecting two-dimensional perceptual maps rather than one with more than two dimensions is the ease of comparison; three or more dimensional maps are substantially more difficult to read and even more cumbersome to compare. After all, precise and extensive display of perceptions is beyond the scope of this research. The rationale for utilizing direct, unaided similarity ratings rather than aided ratings of the brands on prior determined attributes (such as the common price and quality ratings), is that this research simply attempts to test perceptual changes regardless of which attributes are being perceived differently. Similarly, our analysis does not attempt to discover the criteria which cause the relative differences between brands as this, again, would be beyond the purpose and scope of this research.

As Figure 1 shows, several of the brands (i.e. Frey, Cadbury, Milo, Crunch, Dove and Van Houten) are perceived very close together; they are relatively little differentiated from each other. The brands which are perceived more distant are Kinder Bueno, KitKat, RitterSport and Ferrero Rocher, especially the latter seems to compete least in consumers mind. Figure 2 shows basically the same story; again, the same brands are perceived closely together and the same bands are projected more distant on the perceptual map. There are some minor changes though; the brand Ritter Sport (the brand under evaluation) seems to have shifted slightly towards the closely perceived group of brands and towards Ferero Rocher.

The perceptual maps visually display relatively little difference in perception of the brand under investigation between the group of participants who sampled the brand and those who did not. Whether the slight changes are significant, an independent t-test will prove.

An independent samples t-test was run on each rating which included the sampled brand (Ritter Sport). Results of this t-test will indicate whether the difference in ratings between the control group and the treatment group are significant. The results of the independent t-test on the brand combinations involving Ritter Sport are displayed in Table 1. None of the t-values exceeded the critical value of 1.666 which corresponds to a 95% confidence level. Thus it is proved that none of the ratings are significantly different.

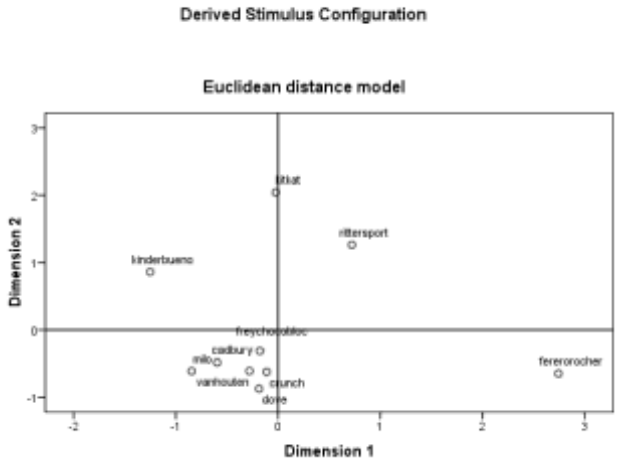

Figure 1

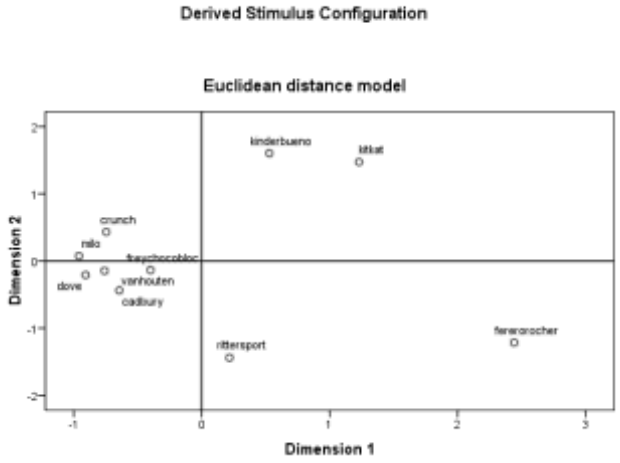

Figure 2

		Levene's Test for Equality of Variances		t-test for uEqality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
question6	Equal variances assumed	.056	.813	-1.068	71	.289	-.36279	.33956	-1.03985	.31427
	Equal variances not assumed			-1.064	61.571	.292	-.36279	.34106	-1.04465	.31907
question7	Equal variances assumed	.454	.503	-.200	71	.842	-.06202	.31048	-.68109	.55706
	Equal variances not assumed			-.197	58.896	.845	-.06202	.31549	-.69334	.56930
question14	Equal variances assumed	.170	.681	-1.190	71	.238	-.45039	.37854	-1.20518	.30440
	Equal variances not assumed			-1.185	61.663	.241	-.45039	.38006	-1.21020	.30943
question16	Equal variances assumed	.277	.600	-.609	71	.544	-.17829	.29259	-.76171	.40512
	Equal variances not assumed			-.604	60.379	.548	-.17829	.29542	-.76915	.41256
question21	Equal variances assumed	.076	.784	-.826	71	.412	-.24806	.30028	-.84681	.35068
	Equal variances not assumed			-.819	60.741	.416	-.24806	.30271	-.85342	.35730
question24	Equal variances assumed	1.859	.177	.643	71	.523	.23023	.35832	-.48424	.94470
	Equal variances not assumed			.657	67.082	.513	.23023	.35034	-.46903	.92949
question27	Equal variances assumed	.123	.727	-.660	71	.511	-.19147	.29008	-.76987	.38692
	Equal variances not assumed			-.660	62.677	.511	-.19147	.28992	-.77088	.38794
question32	Equal variances assumed	.075	.786	.151		.880	.03953	.26160	-.48208	.56115
	Equal variances not assumed			.151		.880	.03953	.26118	-.48240	.56147
question36	Equal variances assumed	9.795	.003	-1.097	71	.276	-.28915	.26356	-.81467	.23637
	Equal variances not assumed			-1.031	71	.308	-.28915	.28039	-.85281	.27452
					62.91					

Table 1

VIII. Conclusions

What the data analyses imply is that there is no significant difference resulting from trial of the brand of chocolate under investigation. Peoples' perceptions of brands do not change due to consuming free samples of the product. Regardless of the limitations of this research, it is safe to say that sampling as a marketing tool does not lend itself well for changing peoples' perception of one brand relative to another. This might well be due to people's inability to evaluate a product precisely through taste; it might be that taste is a sensor which does not discriminate high quality and low quality chocolate well or because people have deeply ingrained perceptions, not easily changed by a one-time exposure to the contrary.

The results of our study are disappointing for manufacturers as goals of improving brand perception are not met through sampling. For such purposes, advertising suits as a better tool. Retailers are similarly unlikely to be able to charge higher prices for branded products after sampling campaigns as consumers' quality perception remains unchanged.

Although sampling might drive sales in the short-term and encourage consumers to switch brands for a short period of time, this research indicates that for more strategic purposes, sampling and product sampling has little potential. Marketers should not assume that sampling has any lasting effects on attitudes of consumers towards the sampled brand.

IX. Limitations of Study

The outcome of our research could be skewed in case sampling does indeed have an effect on perception of a brand relative to others, but that in case of Ritter Sport sampling only reinforces the perception people have without sampling the product. It also is possible that there is a small group of consumers who did perceive the brand differently after tasting, but that this group is too small to cause any significant changes on aggregate. Finally, as we excluded any environmental influences which are typically found in sampling situations, we might have omitted significant factors which do affect perception in those occasions.

Authors and Affiliations

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References

[1] Bawa, Kapil and Robert Shoemaker (2004), "The Effectiveness of Free Sample Promotions on Incremental Brand Sales," Marketing Science, 23 (3), 345-363.

[2] Bettinger, Charles O., Lydon E. Dawson, Jr. and Hugh G. Wales (1979), "The Impact of Free-Sample Advertising, " Journal of Advertising Research, 19 (3), 35-40.

[3] Fine, Phyllis (1985), "Smells that Sell," Marketing and Media Decisions, 20 (December), 78-81, 124, 126.

[4] Freedman, Alix M. (1986), "Use of Free Product Samples Wins New Favor as Sales Tool," Wall Street Journal (August 28), 17.

[5] Gadenk, Karen and Scott A. Neslin (1999), "The Role of Retail Promotion in Determining Future Brand Loyalty: Its Effect on Purchase Event Feedback," Journal of Retailing, 75(4), 43-59.

[6] Heiman, Amir, Bruce McWilliams, Zhihua Shen and David Zilberman (2001), "Learning and Forgetting: Modeling Optimal Product Sampling Over Time," Management Science, 47 (4), 532-546.

[7] Jain, Dipak, Vijay Mahajan, and Eitan Mullen (1995), "An Approach for Determining Optimal Product Sampling for the Diffusion of a New Product," Journal of Product Innovation Management, 12, 124-135.

[8] Lammers, Bruce H. (1991), "The Effect of Free Samples on Immediate Consumer Purchase," Journal of Consumer Marketing, 8 (2), 31-7.

[9] Lindstedt, Sharon (1999), "Tops Supermarkets in Western New York Entice Shoppers With Free Food Samples," Buffalo News (May 24), B3.

[10] Malhotra, Naresh K. (2007),Marketing Research: An Applied Orientation, Upper Saddle River, NJ: Pearson Education.

[11] Marks, Lawrence J. and Michael A. Kamins (1988), "The Use of Product Sampling and Advertising: Effects of Sequence of Exposure and Degree of Advertising Claim Exaggeration on Consumers' Belief Strength, Belief Confidence, and Attitudes," Journal of Marketing Research, 25 (August), 266-81.

[12] McGuinness, Dalton, Mike Brennan and Philip Gendall (1995), "An Empirical Test of Product Sampling and Couponing, " Journal of the Market Research Society, 37, 2 159-170.

[13] Meyer, Ed (1982), "Sampling Builds Better Business," Advertising Age (July 12), M-22.

[14] Moses, Lucia (2001), "Food City Expands Sampling Program," Supermarket News, (April 4), 43.

[15] Nowlis, Stephen M. and Baby Shiv (2005), "The Influence of Consumer Distractions on the Effectiveness of Food-Sampling Programs," Journal of Marketing Research, 42 (May), 157-168.

[16] Steinberg, Sandon A., and Richard F. Yalch (1978), "When Eating Begets Buying: The Effects of Food Samples on Obese and Non-obese shoppers," Journal of Consumer Research, 4 (March), 243-246.

[17] Zwiebach, Elliot (2005), "Marsh Increases In-Store Sampling," Supermarket News, (February 28), 24.