

Media Choice for Information Search to Purchase a New Technology

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Abstract

Introducing a new technology into the marketplace can be risky, so it is vital that those who are potential customers have enough information about the technology to decide whether (or not) to make a purchase. For the marketer it is important to undertake an appropriate media strategy so that all the information is available to those who need it, particularly when several communications activities are being used. This paper will present the results of two surveys (1495 and 1308 respondents a year apart) as they simulate the purchase of a DVD recorder and determine which media they would choose to give them information on the potential purchase, and compare responses across four decision states (Unaware; Aware but not in the market; Aware and in the market; and Already purchased). The results found that the Internet was perceived as a major source of information across all decision states; however, there were differences in the use of other media which is of importance to marketers of new technology.

Introduction

The introduction of a new product into the marketplace can be an expensive activity, however, for companies introducing a new technology, it can also be an extremely risky venture as research and development costs must be recovered. For example, companies that have launched new products, like mobile phones, personal computers, digital cameras, PDAs and DVDs, have spent millions to develop, test market and commercialise their product, yet there is no guarantee of financial success. New product failure is quite high, particularly with consumer products, which has caused major financial problems for some companies, even leading to bankruptcy (Cooper 2000). Further, as well as development costs, there are also promotional costs as the marketplace must become aware of the new technology, informed about its benefits and given convincing arguments to lead the potential customer to become a purchaser. Therefore, it is vital for new product marketers to strategically plan the introduction of their product and undertake an appropriate marketing strategy (Cooper 2000).

It should also be remembered that the marketplace is not a homogeneous one, as not all potential customers are the same. Some people have a predisposition to purchase new products or search out information about new products than others. The nature of innovativeness and its role in early adoption of new products has been of interest to a number of researchers, as has the desire by some to seek out new product information (Hirschman 1980; Manning, Bearden, and Madden 1995; Roehrich 2004). With different parts of the market having different interests in the purchase of a new product, this supports the idea that consumers progress through a series of decision states associated with the purchase of “high-involvement” products (Urban, Hauser, & Roberts 1990; Urban, Hulland, & Weinberg 1993; Oppewal *et al.* 2004), that begins with unawareness and eventually results in the decision to (or not) purchase the product. As the search of information is seen as a way customers flow from one decision state to the next (Urban, Hulland and Weinberg 1993), it is important to make information channels easily available to those in the different decision states (Strebel, Erdem and Swait 2004). But which media channels do people in the various decision states use when they want information on a new technology purchase?

The research objectives of this paper are to: (1) determine which information channels people use to gather information on the purchase of a DVD recorder, and (2) discover if there are any differences in the media choice that relate to a consumer’s decision states. The findings are based on a survey taken on two samples of respondents a year apart, whereby they were asked to simulate the purchase of a DVD recorder and determine which media they would choose to give them information on the potential purchase. The information channel options, which included advertisements, family and friends, the Internet, newspapers and magazines, sales assistants, and shop displays, were compared across four decision states (Unaware; Aware but not in the market; Aware and in the market; and Already purchased). Note that in the second sample it was decided that the Internet was a broad category, and so it was decided to have two categories, Internet Search and Internet Discussion List. From the results some recommendations will be made to assist marketers of new technology when planning a new product media strategy.

Background

Information Search Channels

Before purchasing a new technological product, potential purchasers will undertake some amount of information search. Information search has been defined as “the degree of attention, perception, and effort directed toward obtaining environmental data or information related to the specific purchase under consideration” (Beatty and Smith 1987, 85). The types of information search include internal information search (from the potential customers memory as a result of previous searches, product experience or passively acquired) or external information search (advertising, magazines, and consulting with experts, sales representatives, family and friends, etc) (Punj and Staelin 1983; Beatty and Smith 1987; Lee and Hogarth 2000). Further, external information search can be classified as being: seller-provided, personal (family and friends) or third party (Lee and Hogarth 2000). This is similar to Kiel and Layton (1981) who identified four more specific factors: retailer search, media search, interpersonal search and time.

A number of studies have looked at information channel usage and factors like search effort and consumer characteristics (Kiel and Layton 1981; Beatty and Smith 1987; Smith 1993; Lee and Hogarth 2000; Strebel, Erdem and Swait 2004). The importance for marketers is to make sure that potential customers have access to relevant information during this time of information search, so ensuring that the appropriate information channels, or media, are available to potential purchases is paramount. According to Strebel, Erdem and Swait (2004), “understanding the role of information channels during the purchase process for high technology durable goods is vital to the optimal allocation of communication resources” (p.96). Therefore, if the marketers know which media potential customers use to gather information on a new technology purchase, they can focus on exploiting that media.

In this study the information channel options, included (1) advertisements, (2) family and friends, (3) the Internet, (4) newspapers and magazines, (5) sales assistants, and (5) shop displays, which corresponds with other studies (Strebel, Erdem and Swait 2004). This also provides a range of sources that are seller-provided (advertisements, sales assistants, shop displays), personal (family and friends) and third party (newspapers and magazines), while the Internet can be both seller-provided and third party. For the second sample it was decided that the media category Internet was too broad, and so it was decided to have two categories, Internet Search and Internet Discussion List.

While it is important to look at people’s first media choice, in reality people do not just look at one media as a source of information, just as most organizations do not run just one media in a media campaign. Rossiter and Bellman (2005) discuss media-type selection for a marketing communications campaign, and claim that an organization can employ several primary media (eg television and newspapers) to reach the total target market and several secondary media (eg store displays) to boost communication effects, like brand awareness or purchase intention (p 236-244). The idea of employing and co-ordinating several promotional activities in a campaign to communicate to customers is the central theme on Integrated Marketing Communications (IMC) (Kitchen, etal 2004; Belch and Belch 2007). The IMC process involves planning, developing, executing and evaluating a co-ordinated program of brand communications activities aimed at consumers, and other internal and external audiences (Schultz 2004), so it is important to identify the media choices that are more relevant to particular target audiences.

Using these information sources as the media choice for this study, an analysis will be made to determine which information channels and media choice people use to gather information on the purchase of a new technology (DVD recorder), and discover if there is a difference on media choice based on a consumer's decision state, which is discussed below.

Decision States

As a way to assist in the understanding of consumer choice, a number of studies have suggested that consumers progress through a hierarchical system of series of decision states associated with the purchase of "high-involvement" products (eg, Nicosia 1966; Howard and Sheth 1969; Engel, Blackwell and Kollat 1978; Louviere 1981; Kotler and Armstrong 1991). These states begin with awareness (although can include unawareness), eventually resulting in a decision to purchase the product or not. Urban, Hauser, & Roberts (1990) presented a model proposing a number of states for the purchase of a car, including Awareness, In the Market, Visit Dealer, Information (word of mouth), and Purchase (buy car, buy other car, not buy car). In defining the decision states it was claimed "each consumer is represented by a behavioural state that describes his/her level of information about his/her potential purchase" (p. 409). Later, Urban, Hulland and Weinberg (1993) proposed that "customers are defined as being in decision process states, and they flow from one state to another as a result of their search for information and marketers' actions". Therefore, each consumer can be classified as being in one of a set of discrete decision states. In Urban, Hulland and Weinberg (1993) the overall state between initial awareness and purchase decision is all captured by the broad term 'in the market'. Being in the market is then divided into sub-states representing the sequence of using or encountering particular marketing communication channels.

Even though there have been a number of papers that propose various frameworks for these states, there are very few papers that have actually examined the distributions. For example, there is work on particular states like awareness vs non-awareness or consideration vs non-consideration (Roberts and Lattin 1991, 1997), or choice of brand (eg, Louviere, Hensher and Swait 2000). Kardes, Kalyanaram, Chandrashekar and Dornoff (1993) and Kalyanam and Putler (1997) have modelled a limited sample of states. Waller and Louviere (2003), Louviere, Waller and Smith (2003), and Oppewal et al (2004) have presented a conceptual framework of the overall process and undertaken some preliminary modelling that indicate overall support for the basic framework. However, these studies have observed general samples of the population and their position in the process. Based on this, the current study will observe a number of consumer characteristic and socio-demographic variables across four decision states: (1) Unaware, (2) Aware but not actively considering, (3) Aware and "in the market", and (4) Already purchased.

Methodology

To determine which media channels people use to gather information on the purchase of a new technology (DVD recorder), the data was collected from two nation-wide on-line panels in Australia taken a year apart. A total of 1495 respondents answered Sample 1 and 1308 respondents answered Sample 2. The questionnaire included questions measuring decision states and a choice experiment measuring DVD recorder preferences. Each decision state was measured with multiple items. States 1 (unaware) and 4 (have purchased) were measured with direct questions such as "*I have never heard of DVD recorders*" (unaware) and "*I have*

purchased a DVD recorder” (purchased). The other two states were measured with questions concerning consideration and search behaviours that would be expected of people who were currently searching for a DVD recorder. Sample questions included “*I have compared DVD brands*”, “*I have looked carefully at them in shops*”, “*I have discussed them with family and friends*” etc. A summary question was also asked where respondents indicated directly how much time and effort they had put into learning about DVD recorders. Based on the responses to these questions, respondents were categorized as either being in the market or not in the market.

The result for Sample 1 was: Unaware (56 or 3.8%); Aware but not in the market (1045 or 71.4%); Aware and in the market (293 or 20.0%); and Already purchased (70 or 4.8%); and for Sample 2 was: Unaware (18 or 1.4%); Aware but not in the market (587 or 45.8%); Aware and in the market (492 or 38.4%); and Already purchased (184 or 14.4%). Comparing the two samples it can clearly be seen that within the year there has been a definite move across the decision states as less respondents are unaware or not in the market, to enter in the market or purchase the new technology.

The choice experiment presented respondents with a scenario where they were asked to suppose that they had just received a \$1000 special gift voucher from a loyalty program company like Flybuys. This voucher could be spent on a limited number of options, including a DVD recorder, DVD discs, CDs, books or respondents could choose to donate the money to a charity. Respondents were told that they had to use the voucher within 12 months. If they spent more than \$1000, they would have to make up the difference themselves. The scenario meant that every respondent was presented with an opportunity to obtain a DVD recorder if they wished, even if they had not yet considered purchasing one or if they did not have the means to purchase. Respondents were told that the vouchers could only be redeemed through a specific website that is not related to any existing retailer. This paper will only report on the results relating to the information channels to be used to gain information on DVD recorders.

Results

Choice of Media

The respondents were presented with a list of information source options and asked what would be their first choice of media to obtain information on DVD recorders. From the responses given, presented in Table 1, it is clear that the Internet was perceived as the first choice as an information source for both samples. In Sample 1, 641 or 43.5%, and Sample 2, 534 or 41.3%, of the respondents chose the Internet/Internet Search as their primary search media. The next two media were ranked the same by both samples, with Family and Friends being a distant second with 12.3% in Sample 1 and 12.5% in Sample 2, followed by Shop Displays with 11.6% in Sample 1 and 11.4% in Sample 2. Internet Discussion List, which was added to Sample 2 came last with 5.8% of respondents choosing it as their primary search media. This answers the first research objective.

Table 1: Comparing First Choice Media and Decision States

SAMPLE 1	Unaware	Not in the Market	In the market	Already Purchased	
Internet	16 2.5% 27.1%	438 68.3% 41.7%	161 * 25.1% 54.9%	26 4.1% 37.1%	641 100% 43.6%
Family and friends	6 3.3% 10.2%	146 * 80.7% 13.9%	22 12.2% 7.5%	7 3.9% 10.0%	181 100% 12.3%
Shop displays	6 3.5% 10.2%	124 * 72.5% 11.8%	34 * 19.9% 11.6%	7 4.1% 10.0%	171 100% 11.6%
Advertisements	9 * 5.5% 15.3%	127 * 77.0% 12.1%	19 11.5% 6.5%	10 * 6.1% 14.3%	165 100% 11.2%
Newspapers and magazines	10 * 6.2% 17.0%	115 71.0% 11.0%	27 16.7% 9.2%	10 * 6.2% 14.3%	162 100% 11.0%
Sales assistants	12 * 7.9% 20.3%	100 65.8% 9.5%	30 19.7% 10.2%	10 * 6.6% 14.3%	152 100% 10.3%
Total	59	1050	293	70	1472
Row %	4.0%	71.3%	19.9%	4.8%	100%
Column %	100%	100%	100%	100%	100%
Chi-Square	Value	DF	Significance		
Pearson	41.264	15	.000		
SAMPLE 2	Unaware	Not in the Market	In the market	Already Purchased	
Internet Search	7 1.3% 36.8%	237 44.4% 40.1%	207 * 38.8% 41.9%	83 * 15.5% 43.9%	534 100% 41.3%
Family and friends	4 * 2.5% 21.1%	91 * 56.5% 15.4%	50 31.1% 10.1%	16 9.9% 8.5%	161 100% 12.5%
Shop displays	2 1.4% 10.5%	65 44.2% 11.0%	54 36.7% 10.9%	26 * 17.7% 13.8%	147 100% 11.4%
Newspapers and magazines	1 0.7% 5.2%	61 44.9% 10.3%	58 * 42.6% 11.7%	16 11.8% 8.5%	136 100% 10.5%
Sales assistants	3 * 2.3% 15.8%	62 * 48.4% 10.5%	43 33.6% 8.7%	20 * 15.6% 10.6%	128 100% 9.9%
Advertisements	2 * 1.8% 10.5%	49 43.8% 8.3%	43 * 38.4% 8.7%	18 * 16.1% 9.5%	112 100% 8.7%
Internet Discussion List	0 0.0% 0.0%	26 34.7% 4.4%	39 * 52.0% 7.9%	10 13.3% 5.3%	75 100% 5.8%
Total	19	591	494	189	1293
Row %	1.5%	45.7%	38.2%	14.6%	100%
Column %	100%	100%	100%	100%	100%
Chi-Square	Value	DF	Significance		
Pearson	22.493	18	.211		

* media choice % equal or higher than overall decision state %

Comparing the media choices across the decision states, it was found that there was a statistical difference across the four decision states in Sample 1, but a year later in Sample 2 there was not a statistical differences in choices. Observing the decision states response percentage to the overall percentage, it was found that for those Unaware the main media choices were Sales Assistants, Newspapers and Magazines, and Advertisements (Sample 1) and Family & Friends, Sales Assistants, and Advertisements (Sample 2); for those Not in the Market was Family and Friends, Advertisements, and Shop Displays (Sample 1) and Family and Friends and Sales Assistants (Sample 2); for those In the Market was Internet and Shop Displays (Sample 1) and Internet Search, Newspapers and Magazines, Advertisements and Internet Discussion List (Sample 2); and for those Already Purchased was Newspapers and Magazines, Newspapers and Magazines, and Sales Assistants (Sample 1) and Internet Search, Shop Displays, Sales Assistants and Advertisements (Sample 2). This answers the second research objective.

Clearly these results indicate that there is not a “one size fits all” approach to media strategy when it comes to communicating to the marketplace about a new technology. A person’s decision state plays an important role in their interest and knowledge regarding their attention to a new innovation, and marketers should adjust their media strategy to suit the media interest of the decision state-based target market.

Conclusion

While the Internet was generally seen as the most important information channel that people use to gather information on the purchase of a new technology, the study has shown that the relative importance of other media varies across four decision states, and expands as the new technology diffuses into the community. This result emphasises the importance on not just researching the marketplace as a whole, but particularly in this case, analysing the effect that being in a particular decision state has on their attitudes and media habits. Further, for marketers, by knowing and understanding the influence of a market’s decision states can effect the type of marketing or promotional strategy to be undertaken, particularly for the introduction of a new technology, and being more efficient in allocating the appropriate resources. Further research is highly recommended for the areas of decision states and information sources. With a greater understanding of the characteristics and media behaviour of potential customers it is hoped that modelling this behaviour will increase the predictability of market behaviour in relation to new technological products. Such modelling will improve the efficiency of the use of marketing resources that will not only benefit new product marketers but also potential customers.

References

- Beatty, Sharon E. and Scott M. Smith. 1987. External Search Effort: An Investigation Across Several Product Categories. *Journal of Consumer Research*, 14 (June):83-95.
- Belch, George and Michael Belch (2007), *Advertising and Promotion: An Integrated Marketing Communications Perspective*, 7th edition, McGraw-Hill/Irwin.
- Cooper, L.G. 2000. Strategic Marketing Planning for Radically New Products, *Journal of Marketing*, January, 1-16.
- Engel, J.F., Kollat, D.T., Blackwell, R.D., 1978. *Consumer Behavior*, 3rd. ed., The Dryden Press, Hinsdale, IL.
- Hirschman, E.C. 1980. Innovativeness, Novelty Seeking, and Consumer change, *Journal of Consumer Research*, 7, 283-295.
- Howard, J.A., Sheth, J.N., 1969. *The Theory of Buyer Behavior*, John Wiley & Sons, Inc., New York.
- Kalyanam, K., Putler, D.S., 1997. Incorporating Demographic Variables in Brand Choice Models: An Indivisible Alternatives Framework. *Marketing Science* 16 (2), 166-181.
- Kardes, F.R., Kalyanaram, G., Chandrashekar, M., Dornoff, R.J., 1993. Brand Retrieval, Consideration Set Composition, Consumer Choice, and the Pioneering Advantage. *Journal of Consumer Research* 20 (June), 62-75.
- Kiel, Geoffrey C. and Roger A. Layton. 1981. Dimensions of Consumer Information Seeking Behavior. *Journal of Marketing Research*, 18 (May):233-239.
- Kitchen, Philip J., Joanne Brignell, Tao Li, and Graham Spickett Jones 2004. "The Emergence of IMC: A Theoretical Perspective". *Journal of Advertising Research*, March: 19-30.
- Kotler, P. and Armstrong, G. 1991. *Principles of Marketing*, 5th edition, Prentice Hall, Englewood Cliffs, NJ.
- Lee, Jinkook and Jeanne M. Hogarth 2000. Relationships among Information Search Activities When Shopping for a Credit Card. *The Journal of Consumer Affairs*, Vol. 34, No. 2: 330-360.
- Louviere, J.J., 1981. A Conceptual and Analytical Framework for the Analysis of Spatial and Travel Choices. *Economic Geography* 57 (4), 304-315.
- Louviere, J.J., Hensher, D.A., Swait, J.D., 2000. *Stated Choice Methods: Analysis and Application*, Cambridge University Press, Cambridge, UK.
- Louviere, J.J. Waller, D.S., Smith, M., 2003. Modelling a Hierarchy of Consumer Decision States: The Choice of Island Holiday Destinations and DVD Players. In Kennedy, R. (Ed.). *Proceedings of the Australia New Zealand Marketing Academy Conference*. Adelaide: University of South Australia, 554-559.
- Manning, K.C., Bearden, W.O., Madden, T.J., 1995. Consumer Innovativeness and the Adoption Process. *Journal of Consumer Psychology* 4 (4), 329-345.
- Nicosia, F.M., 1966. *Consumer Decision Processes*, Prentice Hall, Englewood Cliffs, NJ.
- Oppewal, H., Morrison, M., Rungie, C., Waller, D., Wang, P., Louviere, J., Devinney, T., 2004. A Conceptual Model of Consumer Decision States Using Information Acceleration. In Wiley, J., Thirkell, P. (Eds). *Proceedings of the Australia New Zealand Marketing Academy Conference*. Wellington: Victoria University of Wellington, CD Rom.
- Punj, Girish N. and Richard Staelin. 1983. A Model of Consumer Information Search Behavior for New Automobiles. *Journal of Consumer Research*, 9 (March):366-380.
- Roberts, J.H., Lattin, J.M., 1991. Development and Testing of a Model of Consideration Set Composition. *Journal of Marketing Research* 28 (November), 429-440.
- Roberts, J.H., Lattin, J.M., 1997. Consideration: Review of Research and Prospects for Future Insights. *Journal of Marketing Research* 34 (August), 406-410.
- Roehrich, Gilles 2004. Consumer Innovativeness: Concepts and Measurements, *Journal of Business Research*, 57, 671-677.
- Rossiter, John R. and Steven Bellman (2005) *Marketing Communications: Theory and Applications*, Pearson Education Australia: Sydney.
- Schultz, Don E. 2004. "IMC Receives More Appropriate Definition". *Marketing News*. September 15: 8-9.
- Strebel, Judi, Tulin Erdem and Joffre Swait 2004. Consumer Search in High Technology Markets: Exploring the Use of Traditional Information Channels. *Journal of Consumer Psychology*, Vol. 14, No. 1&2, 96-104.
- Urban, G.L. Hauser, J.R., Roberts, J.H., 1990. Prelaunch Forecasting of New Automobiles. *Management Science* 36 (4), 401-421.
- Urban, G.L., Hulland, J.S., Weinberg, B.D., 1993. Pre-market Forecasting for New Consumer Durable Goods: Modeling Categorization, Elimination, and Consideration Phenomena. *Journal of Marketing* 57 (April), 47-63.
- Waller, D.S., Louviere, J.J., 2003. A Conceptual Framework and Approach to Modelling Consumer Decision States: Final Report. Unpublished report. Sydney: UTS Faculty of Business.