

Hynes, N. and Lo, S. (2006) *Innovativeness and consumer involvement in the Chinese market*. Singapore Management Review, 28 (2). pp. 31-46.

Abstract

There are many markets where two technologies co-exist and compete and predicting consumer choice in this situation is difficult. Existing theories such as the diffusion of innovation go some way to explaining the initial take up of the new technology but in markets where both technologies are in a mature stage, other measures such as consumer involvement may be better indicators of consumer choice. This study examines the relationship between domain specific innovativeness (DSI) and consumer involvement profiles (CIP) in the camera market. It provides evidence of cross cultural validity of these scales and provides initial evidence to suggest consumer involvement is a better predictor of behaviour than innovativeness in markets where two relatively mature technologies compete side by side.

Introduction

Where two technologies compete side by side, predicting consumer behaviour is a challenging task. This can be seen in many markets where there are two or more functional technologies, for example the choice between petrol and diesel car purchasing, or between MP3, CD audio, and taped versions of music, or video and DVD technologies. All technologies in these classes are functional and are "current" in the marketplace as all are sold and supported. Various theories such as the diffusion on innovation address consumer adoption of the technology, but are concentrated mainly during the introduction of the new technology. These studies focus on segmenting the consumer population based on the individual's level of innovativeness. However, is this appropriate where technologies co-exist? In many of these types of markets, there is no overall "new" or "best" technology--each medium has different disadvantages and advantages. Price is not necessarily an indicator of newness or quality or innovation since many such markets consist of a range of products with price ranges comparable across all technologies.

The camera market is one such market; consumers can choose between digital and conventional cameras from a large range of comparable prices and most camera manufacturers offer a range of products of each competing technology. In these markets where the technologies co-exist, being able to determine which type of consumers seek out differing technologies is of great interest to manufacturers. Being able to predict which groups of people will adopt an innovation allows specific targeting of potential consumers at all levels of marketing from advertising through to promotion and distribution channels. The aim of this study is to determine which aspects of consumer behaviour may best predict consumer purchasing behaviour. Specifically the study examines the level of innovativeness and the level of consumer involvement in the purchasing decision for conventional and digital cameras.

Literature Review: Innovativeness

The diffusion of innovation throughout a market is commonly modelled using a hierarchy of effects type decision model (Wilkie, 1990). This model describes the adoption process in terms of different stages, starting from unawareness stage through awareness, knowledge, liking, trial, use evaluation, and finally to the adoption stage (Wilkie, 1990). However, the timing of a consumer through this decision model varies significantly and the level of consumer innovativeness is defined as the propensity to buy a new product soon after its launch within a product category (Hirschman, 1980a; Midgley and Dowling, 1978; Robertson, 1971; Rogers, 1983). Identifying innovativeness within a market can lead to more successful new product introduction and therefore is of significant interest.

Innovativeness can be defined as a personality trait (innate innovativeness) and is "the degree to which an individual is receptive to new ideas and makes innovation decisions independently of the communicated experience of others" (Midgley and Dowling, 1978; Hirschman, 1980a). Communicated experience refers to information transmitted between consumers and is generally based on actual experience with the new product (Midgley and Dowling, 1978). Innovativeness was originally assumed to be constant for each individual; that is that each consumer is "born with" a certain allotment of innovativeness and this personality trait remains constant over a person's lifetime. However, given the fact that innovativeness has been found to be highly correlated with such variables as educational attainment, occupational status, and urbanisation (Roger and Shoemaker, 1971), it would seem more plausible that it is not a constant, but is, in fact, socially influenced (Hirschman, 1980a). In addition, not only can the level of innovativeness be affected by external influences, a person may show a high degree of innovativeness in one product category (for example, computer products) but he or she may show little interest in other product categories (for example, clothing), and this makes it potentially difficult to identify innovators in any one specific product category market (Gatignon and Robertson, 1985). This issue is addressed by measuring innovativeness which is product or "domain specific" (Foxall and Goldsmith, 1988; Goldsmith and Flynn, 1992).

The innovativeness construct has been operationalised many times using different techniques and definitions based on constructs such as product use and uniqueness (Venkatraman and Price, 1990; Manning, Bearden and Madden, 1995; Joseph and Vyas, 1984), however, the most useful predictions of consumer behaviour have been found using the Domain Specific Innovativeness (DSI) scale of Goldsmith and Hofacker (1991). In a recent study, Citrin et al, (2000) found that domain specific innovativeness is a more accurate predictor of consumer adoption behaviour than a more open ended characteristic and this confirms Ostlund's (1971) finding that it is the characteristics of the innovation itself which are more important in the decision process than the characteristics of consumers.

Innovators are thought to be not only opinion leaders (Flynn and Goldsmith, 1993b), but also more knowledgeable about new products, (Flynn and Goldsmith, 1993b; Goldsmith and Flynn, 1995), to have greater media exposure, to be less price sensitive, and also heavier users of the products category (Flynn and Goldsmith, 1993a; Goldsmith et al, 1998). These behaviours have been shown to be positively correlated to innovativeness by using the DSI scale but are also captured in the stream

of research which addresses consumer involvement.

Consumer involvement is defined as the perceived personal importance or interest attached to the acquisition, consumption, and disposition of a good, service, or idea (Richard et al, 1988). It is a theoretical construct that draws on the cognitive styles of consumers when trying to explain consumer behaviour. It can be useful in consumer marketing as it can provide a basis for a motivational force which can explain various outcome of consumer behaviour, such as the number and type of choice criteria, extensiveness of information search, length of decision marketing process and brand switching (Knox et al, 1994).

Consumers experience involvement as cognitive perceptions of importance and interest and affective feelings of arousal (Peter and Olson, 2002). The degree of consumer involvement in a specific product category is widely recognised as a major variable relevant to advertising strategy and other marketing strategies (Ray, 1982; Rothschild, 1979; Vaughn, 1980). Depending on their level of involvement, individual consumers differ in the extent of their decision process and their search for information. In addition, consumers may be passive or active when they receive advertising communication depending on their involvement level (Laurent and Kapferer, 1985). As a result, the concept of involvement has played an increasingly important role in explaining consumer behaviour. It may also affect the level of brand loyalty (Robertson, 1976), brand discrimination (Zaichkowsky, 1985), the amount of comparison between products (Zaichkowsky, 1985), the amount and role of information searching (Robertson, 1976), how advertising is processed (Krugman, 1965), and which elements within an advertisement are responded to (Petty et al, 1983).

Various types of involvement have been described, defined and measured stemming from different application of the term "involvement". The literature on involvement shows that there are three major domains of involvement, which are commonly used by researchers: advertising domain (Krugman, 1962, 1965, 1967, 1977; product class domain (Howard and Sheth, 1969; Hupfer and Gardner, 1971) and purchasing decision domain (Clarke and Belk, 1978; Zaichkowsky, 1986). The two more commonly used multi-item scales are those of Laurent and Kapferer (1985) and Zaichkowsky (1985). Zaichkowsky's (1985) scale (PII) treats involvement as a uni-dimensional construct while Laurent and Kapferer's (1985) CIP scale treats involvement as a multidimensional. In a recent study, Aldlaigan and Buttle (2001) used both PII and CIP scales to measure involvement on financial service and concluded that whilst PII shows better reliability whereas CIP can yield more information since it measure five dimensions of involvement and highlight the relative importance of some dimensions over others.

Laurent and Kapferer's CIP scale (1985) measures involvement as a multi-faceted construct along five dimensions: Importance (the perceived importance and risk of the product class); Risk probability (the subjective probability of making a mis-purchase); Symbolism (the symbolic or sign value attributed); Pleasure (the hedonic and rewarding value of the product class); and Interest (the personal interest a person has in a product class). These five dimensions are combined to form an overall involvement profile applicable to any product class.

While the level of innovativeness is commonly used to predict new product purchases, consumer involvement may also be a predictor of this behaviour. This was confirmed in a study by Flynn and Goldsmith (1993b), who found a positive correlation was found between the level of innovativeness and consumer involvement, using the DSI and the PII scales. However, little research has been attempted which looks at the relationship between the DSI and the CIP scale.

The camera market is one typical of consumer goods where competing technologies co-exist and where price is not substantially different between the two technologies. This means that price alone is unlikely to be a deciding factor in the purchase decision. The diffusion of innovation argument would suggest that in the early phases of a new technology being introduced, consumers would fall into different categories of adoption depending on their personal level of innovativeness and that even where a product is several years old there may be sectors of the market for whom this remains a relatively innovative purchase. This approach would suggest that there would be a difference in the level of innovativeness between consumers seeking the "newer" technology in a market even when two technologies co-exist and therefore that:

H1: Consumers who buy digital cameras have a significantly different level of innovativeness than conventional camera purchasers.

The findings of Flynn and Goldsmith (1993b), would suggest a higher level of consumer involvement with "newer" technologies and therefore:

H2: Consumers who exhibit a high level of involvement are more likely to purchase digital cameras over traditional cameras

And that

H3: The level of innovativeness of a consumer is positively associated with the level of consumer involvement.

Methodology

A self-administrated questionnaire was used to capture data from a sample of 100 respondents selected from the consumers of two camera shops in two different areas of Hong Kong. Respondents were pre-selected by asking if they had bought a camera within the last six months or were intending to in the next six months. They were then divided into groups of conventional or digital camera buyers. The data was collected from December 2002 until end January 2003.

The scale used to capture innovativeness was adapted from Goldsmith and Hofacker (1991) and the scale of consumer involvement was taken from Laurent and Kapferer (1985), (See Appendix). The questionnaire was translated into Chinese and back-translated the questionnaire to English again for comparison. Scales were examined for face validity by two independent translators and an expert panel of three senior executives from a leading manufacturer of compact and digital cameras who gave comments on both original and back translated questionnaires. The survey was also pre-tested using a sample of 20 and minor adjustments made to the wording.

Respondent Profile

Information was gathered from 100 respondents between 15 to 55 years of age. Demographic data are given in Table 1. The profile of respondents was examined against the 2001 census profile of Hong Kong. Gender and age distribution were not significantly different.

Reliability, Validity, and Bias

Scales were examined for face validity by two independent translators and an expert panel of three senior executives from a leading manufacturer of compact and digital cameras who gave comments on both original and back translated questionnaires. Reliability was examined for each scale using the Cronbach alpha coefficients, the results are shown in Table 2. All scales and sub-scales showed a high level of reliability.

To minimise common method bias, all scales were randomly mixed and several negatively worded questions inserted. Confirmatory factor analysis showed clear unidimensionality to each scale and sub-component.

Although the Cronbach alpha coefficients are lower than desired, they meet the 0.6 cut off for new scales. Given that the scale is being used in a different culture to that it was developed in, this was deemed acceptable to continue.

Results and Discussion: Innovativeness

Total Innovativeness (DSI) scores were calculated for both traditional camera purchasers (15.98) and digital camera purchasers (16.44). One-way Anova showed no significant difference between these two groups. In addition, subgroups of innovators (those with scores of 19 or over) and non innovators (those with scores of 18 and under) were identified in a similar manner to Goldsmith and Hofacker's (1991) study. Of the sample, 90 per cent were categorised as adaptors, and 10 per cent (13 respondents) were categorised as innovators. Chi-square analysis was employed to test the relationship between innovativeness and purchase of digital camera and no significant pattern emerged and therefore H1 was rejected. While the mean score for DSI was lower among conventional camera buyers than digital camera buyers this was not significant in an independent sample T test.

Consumer Involvement

The overall mean score of CIP was calculated as a sum of the value of the five sub-scales of dimensions of involvement. One-way Anova tests revealed significant differences (Table 3) between the level of consumer involvement between the purchasers of digital camera and conventional cameras.

Conventional camera buyers showed lower levels of Importance (risk of product class), hedonism, symbolism, interest, and risk of mispurchase (see Table 5). Of these five items, only one was not significant when tested with an independent sample T test suggesting that in general, purchasers see conventional cameras as less risky, less interesting and with lower symbolism or pleasure in purchasing one.

Significant differences were also found between traditional and digital camera purchasers in the levels of Consumer Involvement (CIP) and in four out of five sub-groups of CIP including hedonic/pleasure involvement, symbolic/sign association, and interest dimensions. However, no significant difference was found between the two groups in their level of importance/risk associated. These findings suggest that digital camera customers tend to have more involvement and interest than conventional camera customers and broadly support H2.

Relationship between Innovativeness and Consumer Involvement

Pearson correlations were used to look for associations between the level of consumer innovativeness (DSI) and consumer involvement (CIP) as well as the five sub-components of CIP. The Pearson correlation analysis revealed that amongst consumers there was not a positive correlation between the DSI and overall CIP scores. However, there were significant correlations between the level of DSI and Symbolism and Interest.

In addition, demographic variables (sex, age, income, marital status, level of education) were compared against the level of both Innovativeness and Consumer Involvement. No significant differences were found among any of the demographic factors and these variables.

Discussion and Implications

On average, the consumers did not show any significant difference in the level of innovativeness between those purchasing digital cameras and those purchasing conventional cameras giving initial evidence that the level of DSI is not a good indicator for products where technologies have co-existed for some time. This is consistent with the theory of diffusion of innovation where in the mature or later stages adoption is spread into less innovative consumers. However, the level of consumer involvement between these two groups is significantly different, and this is particularly so for four of the sub-components of the CIP scale. This implies that consumer involvement (and in some cases elements of this scale) is better indicators for predicting consumer choice given two competing technologies.

The factor which was not significant was Importance/Risk of Mis-purchase and this can possibly be explained by the recent decline in the cost of digital cameras making this purchase perceived not to be high risk. That this was insignificant between groups when the subjective risk of mis-purchase was significant together with differences in levels of Interest and Pleasure suggests that consumers have relatively high confidence in their own ability not to make mistakes but that this is higher in terms of other levels of consumer involvement, digital cameras are seen as pleasure granting or hedonistic purchases, purchases which may increase symbolic or sign pleasure, and those that have a higher degree of consumer interest and importance. Since cameras are relatively low cost items, the actual risk in mis-purchase is relatively low, and the involvement expected to be lower than a higher value good. Cameras, perhaps like watches and mobile phones, may soon fall into the category of self-indulgent accessories which are purchased more frequently than higher value goods and this would explain the significant correlations against Interest and Symbolism.

When new technologies are launched, it is widely accepted that consumer behaviour is likely to be affected by consumer innovativeness. However, in the case of technologies co-existing, this is apparently no longer the case even where one technology is objectively "newer" than the other as in the case of the camera market. This study shows that in this type of market, consumer involvement is a much more important determinant of consumer behaviour than innovativeness. This is a very important finding from the perspective of manufacturers marketing competing technologies.

Promotional messages and advertisements with self-indulgent messages are more likely to be positively received by the digital camera group than by the conventional camera purchasers and advertisements which attempt to emphasise the newness of the technology are less likely to work. Alternatively, advertisers could use this "gap" in consumer preferences to recreate interest in the older technology by trying to increase consumer symbolism or pleasure in an existing technology. In addition, in markets where there are co-existing competing technologies manufacturers, consumers show less overall interest in the "older" technologies and this may be the result of manufacturers only promoting the newer technology, it may be possible for manufacturers to reverse this trend with advertising that highlights the benefits of the "older" technology. If this finding is replicated in other consumer good markets, this is potentially a very important distinction and can allow manufacturers to more clearly target consumers or to promote particular product groups.

From a more theoretical viewpoint, the levels of consumer DSI and CIP were not found to be significantly correlated in this study although several subcomponents are correlated (Symbolism and Interest). This suggests that camera purchase is more complex than either the level of innovativeness or the level of CIP, but a mixture of these factors. This supports earlier findings that when consumers are innovative they show more knowledge (Interest) in a product category. In addition, this study contributes on a theoretical level as the DSI scale has largely been used in English speaking or westernised markets and this study provides initial evidence of the cross-cultural reliability of the scale. This is especially important given the changes occurring in the Chinese market.

It would be useful to repeat the research using goods of different values as this may show differences between the levels of consumer innovativeness and that of CIP. It is likely that as products become more expensive the correlation between CIP and innovativeness increases since the risk of mis-purchase also increases. However the significance in association between symbolism and interest is an important finding since it is apparently these sub-components which are associated with a higher level of innovativeness. Hence manufacturers hoping to launch innovative new products in this market may better target innovators by use of symbolism in advertising or by creating higher levels of interest.

Appendix Scales Used

The words digital and compact were exchanged in each of the two sets of questionnaires.

Innovativeness (DSI)

In general, I am the first in my circle of friends to buy a new digital/compact camera when it appears.

Compared to my friends I own a lot of digital/compact cameras. I will not buy a new digital/compact camera if I haven't tried it yet. I do not like to buy digital/compact camera before other people do. If I heard that a new digital/compact camera was available in the store, I would not be interested enough to buy it.

In general, I am the first in my circle of friends to know the brands of the latest digital/compact camera.

Consumer Involvement (CIP) Probability of Mis-purchase

When one purchases a digital/compact camera, one is never certain of one's choice.

Choosing a digital/compact camera is rather complicated.

Whenever one buys a digital/compact camera, one never really knows whether it is the one that should have been bought.

When I face a shelf of digital/compact cameras, I always feel a bit at a loss to make my choice.

Perceived Product Risk

It is really annoying to purchase digital/compact camera that are not suitable.

When you choose a digital/compact camera, it is not a big deal if you make a mistake.

If after I bought a digital/compact camera, my choice proved to be poor, I would be really upset.

Interest

Digital/compact cameras are a topic which leaves me totally indifferent. I attach great importance to digital/compact cameras. One can say digital/compact cameras interest me a lot.

Symbolism

You can tell a lot about a person by the digital/compact camera he or she chooses.

The digital/compact camera I buy gives a glimpse of the type of man or woman I am.

The digital/compact camera you buy tells a little bit about you.

Hedonism/Pleasure

It gives me pleasure to purchase a digital/compact camera. Digital/compact cameras are somewhat of a pleasure to me. Buying a digital/compact camera is like buying a gift for myself.

References

Agostini JM, 1987. "Communication Publicitaire et Implication du Consommateur. Consequences Pratiques pour la Conception des Messages et les Choix des Media" IREE Proceedings of the 18th Annual Conference, pp 79-86.

Aldlaigan AH and FA Buttle , 2001. "Consumer Involvement in Financial Services: An Empirical Test of Two Measures", International Journal of Bank Marketing, Vol 19 No 6, pp 232-245.

Antil JH, 1984. "Conceptualisation and Operationalisation of Involvement", In: Advances in Consumer Research (eds), Kinnear T (Ann Arbor), MI, 11, pp 203-209

Bloch PH and M Richins, 1983. "A Theoretical Model for the Study of Product Importance Perceptions", Journal of Marketing, Vol 47, Summer, pp 69-81.

Brisoux JE and EJ Cheron,1990. "Brand Categorisation and Product Involvement", in ME Goldbert, G Gorn and RW Pollay (eds), Advances in Consumer Research, Vol 17, pp 101-109.

Carlson L and SL Grossbart, 1984. "Toward a Better Understanding of Inherent Innovativeness" in RW Belk, R Peterson, GS Albaum, MB Holbrook, RA Kerin, NK Molhotras and P Wright (eds), American Marketing Association Educator's Proceedings, Vol 50, pp 88-91.

Celsi RL and JC Olson, 1988. "The Role of Involvement in Attention and Comprehension Processes", Journal of Consumer Research, Vol 15, September, pp 210--224.

Citrin AV, DE Sprott, SN Silverman and DE Jr Stem, 2000. "Adoption of Internet Shopping: The Role of Consumer Innovativeness", Industrial Management and Data Systems, Vol 100 No 7, pp 294-300.

Clarke K and RW Belk, 1978. "The Effect of Product Involvement and Task Definition On Anticipated Consumer Effort", in Advances In Consumer Research, Vol 5, (ed). HK Hunt, A Arbor, MI: Association for Consumer Research, pp 313-318.

Cohen JB, 1983. "Involvement and You: 1000 Great Ideas", in *Advances in Consumer Research*, (ed) R Bagozzi and A Tybout, (Ann Arbor), MI, 10, pp 325-328.

Costley CJ, 1988. "Meta Analysis of Involvement Research", in *Advances in Consumer Research* (Ann Arbor), MI, 15, pp 554-562.

Flynn LR and RE Goldsmith, 1993a. "Identifying Innovators in Consumer Service Markets", *The Service Industries Journal*, Vol 13 No 3, pp 97-109.

--, 1993b. "A Validation of the Goldsmith and Hofacker Innovativeness Scales", *Educational and Psychology Measurement*, Vol 53 No 4, pp 1005-1116.

--, 1995. "The Domain Specific Innovativeness Scale: Theoretical and Practical Dimensions", *Association for Marketing Theory and Practice Proceedings*, Vol 4, pp 177-182.

Foxall GR, 1984. *Corporate Innovation: Marketing and Strategy*, St Martin's Press, New York, NY.

--, 1988. "Consumer Innovativeness: Novelty-seeking, Creativity and Cognitive Style", in Hirschman EC and Sheth J (eds), *Research in Consumer Behavior*, Vol 3 pp 77-113.

Foxall GR and S Bhate, 1993. "Cognitive Style and Personal Involvement as Explicators of Innovative Purchasing of 'Healthy' Food Brands", *European Journal of Marketing*, Vol 27 No 2, pp 5-16.

Foxall GR and RE Goldsmith, 1988. "Personality can Consumer Choice: Another Look", *Journal of the Market Research Society*, Vol 30, pp 111-125.

Gatigon H and T S Robertson, 1985), "A Propositional Inventory for New Diffusion Research", *Journal of Consumer Research*, Vol 11 No 4, pp 849-867.

--, 1991. "Innovation Decision Processes", in Robertson TS and Kassarijian HH (eds), *Handbook of Consumer Behavior*, Prentice-Hall, Englewood Cliffs, N J, pp 316-348.

Goldsmith RE, 1991. "The Validity of a Scale to Measure Global Innovativeness", *Journal of Applied Business Research*, Vol 7 No 2, pp 89-97.

Goldsmith RE and LR Flynn, 1992. "Identifying Innovators in Consumer Product Markets", *European Journal of Marketing*, Vol 26 No 12, pp 42-55.

Goldsmith RE and C Hofacker, 1991. "Measuring Consumer Innovativeness", *Journal of the Academy of Marketing Science*, Vol. 19 No 3, pp 209-221.

Goldsmith RE and SJ Newell, 1997. "Innovativeness and Price Sensitivity: Managerial, Theoretical and Methodological issues", *Journal of Product & Brand Management*, Vol. 6 No 3, pp 163-174.

Goldsmith RE, F d'Hauteville and LR Flynn, 1998. "Theory and Measurement of

- Consumer Innovativeness: A Transnational Evaluation", *European Journal of Marketing*, Vol 32 No [integral], pp 340-353.
- Helgeson JG, EA Kluge, J Mager and C Taylor, 1984. "Trends in Consumer Behavior Literature: A Content Analysis", *Journal of Consumer Research*, Vol 10, March, p. 452.
- Hirschman EC, 1980a. "Innovativeness, Novelty Seeking and Consumer Creativity", *Journal of Consumer Research*, Vol 7, December, pp 283-295.
- , 1980b. "Black Ethnicity and Innovative Communication", *Journal of the Academy of Marketing Science*, Vol 8, spring, pp 283-295.
- Houston MJ and ML Rothschild, 1977. "A Paradigm for Research on Consumer Involvement", Working Paper 11-77-46, University of Wisconsin-Madison.
- Howard JA and JN Sheth, 1969. *The Theory of Buyer Behavior*, New York: John Wiley.
- Hupfer, Nancy and G David, 1971. "Differential Involvement with Products and Issues: An Exploratory Study", in *Proceedings: Association for Consumer Research*, ed. David M G, College Park MD: Association for Consumer Research, pp 262-269.
- Hurt HT, K Joseph and CD Cook, 1977. "Scales for Measurement of Innovativeness", *Human Communication Research*, Vol 4 No 1, pp 58-65.
- JCTN, 2000. *Japan Camera Trade News*, July, Vol 51 No 7.
- Joseph B and SJ Vayas, 1984. "Concurrent Validity of A Measure of Innovative Cognition Style", *Journal of the Academy of Marketing Science*, Vol 12 No 2, pp 159-175.
- Kardes FR, 1999. *Consumer Behavior and Managerial Decision Making*, Addison-Wesley Educational Publishers, Inc.
- Knox S, D Walker and C Marshall, 1994. "Measurement Consumer with Grocery Brands: Model Validation and Scale Reliability Test Procedures", *Journal of Marketing Management*, Vol 10, pp 137-152.
- Kotler P, 1994. *Marketing Management: Analysis, Planning, Implementation, and Control*, 8th ed., Prentice-Hall, Englewood Cliffs, NJ.
- Krugman HE, 1962. "An Application of Learning Theory to TV Copy Testing", *Public Opinion Quarterly*, Vol 26, Winter, pp 626-634.
- , 1965. "The Impact of Television Advertising: Learning without Involvement", *Public Opinion Quarterly*, Vol 29, Autumn, pp 349-356.
- , 1967. "The Measurement of Advertising Involvement", *Public Opinion Quarterly*, Vol 30, Winter, pp 583-596.

- , 1977. "Memory without Recall, Exposure without Perception", *Journal of Advertising Research*, Vol 17, August, pp 7-12.
- Lastovicka JL and EH Bonfield, 1982. "Do Consumers have Brand Attitudes?", *Journal of Economic Psychology*, Vol 2, pp 57-75.
- Laurent G and J Kapferer, 1985. "Measuring Consumer Involvement Profiles", *Journal of Marketing Research*, Vol 22 No 2, pp 41-53.
- Lynn M and J Harris, 1997. "The Desire for Unique Consumer Products: A New Individual Differences Scale", *Psychology & Marketing*, Vol 14 No 6, pp 601-616.
- Manning KC, WO Bearden and TJ Madden, 1995. "Consumer Innovativeness and the Adoption Process", *Journal of Consumer Psychology*, Vol 4 No 4, pp 329-345.
- Midgley DE 1977. *Innovation and New Product Marketing*, Wiley, New York, NY.
- Midgley DF and GR Dowling, 1978. Innovativeness: The Concept and its Measurement, *Journal of Consumer Research*, Vol 4 No 2, pp 229-242.
- Mischel W, 1977. "On the Future of Personality Measurement", *American Psychologist*, Vol 32, April, p 2.
- Mittal BI, 1989, "Measuring Purchase-decision Involvement", *Psychology and Marketing*, Vol 6 No 2, pp 147-162.
- Mittal BI and MS Lee, 1989. "A Causal Model of Consumer Involvement", *Journal of Economic Psychology*, Vol 10, pp 363-389.
- Mowen JC, 1990. *Consumer Behavior*, 2nd edition, Macmillian Publishing Company.
- Ostlund LE, 1971. "Perceived Innovation Attributes as Predictors of Innovativeness", *Journal of Consumer Research*, Vol 1 Sep, pp 23-9.
- Peter D Bennett (ed), 1995. *Dictionary of Marketing Terms*, 2nd ed, Chicago: American Marketing Association, p. 59.
- Peter JP and JC Olson, 2002. *Consumer Behavior and Marketing Strategy*, 6th ed., McGrawHill/Irwin.
- Petty RE and JT Cacioppo and D Schumann, 1983. "Central and Peripheral Routes to Advertising Effectiveness: The Moderating Role of Involvement", *Journal of Consumer Research*, Vol 10, September, pp 135-146.
- Price LL and Ridgway NM, 1983. "Development of a Scale to Measure Use Innovativeness", in Richard P Bagozzi and Alice M Tybout (eds), *Advances in Consumer Research*, Vol 10, pp 679-684.
- Ray ML, 1973. "Marketing Communication and Hierarchy of Effects", in Sage

- Annual Reviews in Communication Research, F Gerald Kline and P Clark, eds. Beverly Hills, CA: Sage Publications.
- Robertson TS, 1971. *Innovative Behavior and Communication*, Holt, Rinehart and Winston, New York, NY.
- , 1976, "Low-commitment Consumer Behavior", *Journal of Advertising Research*, Vol 16 No 2, April, pp 19-24.
- Rogers EM, 1983. *Diffusion of Innovations*, The Free Press, New York, NY.
- Rogers EM and FF Shoemaker, 1971. "Communication of Innovations, The Free Press.
- Rothchild ML, 1979. "Advertising Strategies for High and Low Involvement Situations", in *Attitude Research Plays for High Stakes*, JC Maloney and B Silverman, eds. Chicago: American Marketing Association, pp 74-93.
- Schiffman LG. and LL Kanuk, 1991. *Consumer Behavior*, 4th edition, Prentice-Hall, Inc.
- Sekaran U, 2000. *Research Methods for Business--A Skill-Building Approach*, 3rd edition, John Wiley & Sons, Inc.
- Slama ME and A Tashchian, 1985. "Selected Socioeconomic and Demographic Characteristics Associated with Purchasing Involvement", *Journal of Marketing*, Vol 49, pp 72-82.
- Solomon MR, 1996. *Consumer Behavior: Buying, Having and Being*, Prentice-Hall.
- , 2002. *Consumer Behavior: Buying, Having and Being*, 5th edition, Prentice-Hall.
- Sherif M and H Cantril, 1947. *The Psychology of Ego-Involvement*. New York: John Wiley & Sons, Inc.
- Sherif M and CI Hovland, 1961. *Social Judgment*, New Haven, CT: Yale University Press.
- Sherif C, M Sherif and R Nebergall, 1965. *Attitude and Attitude Change*, Philadelphia: Saunders.
- Subramanian S and RA Mittelstaedt, 1992. Reconceptualising and Measuring Consumer Innovativeness, In RP Leone and V Kumar (eds), *American Marketing Association Educator's Proceedings*, Vol 3, pp 300-307.
- Vaughn R, 1980. "How Advertising Works: A Planning Model", *Journal of Advertising Research*, 20 (October), pp 27-33.
- Venkatraman MP and LL Price, 1990. "Differentiating between Cognitive and Sensory Innovativeness: Concepts, Measurement, and Implications", *Journal of*

Business Research, Vol 20 No 4, pp 293-315.

Wilkie WL, 1990. Consumer Behaviour, 2nd edition, John Wiley & Sons, Inc.

Zaichkowsky JL, 1985. "Measuring the Involvement Construct", Journal of Consumer Research, Vol 12, pp 341-352.

--, 1986. "Conceptualising Involvement", Journal of Advertising, Vol 15 No 2.

Dr Niki Hynes Lecturer in Marketing Napier University, Edinburgh

Stanley Lo Hong Kong University

Table 1: Demographic Variations in Camera Consumers in Per Cent

Demographic variable	Category	Compact camera customers	Digital camera customers
Gender	Male	27 (54)	31 (62)
	Female	23 (46)	19 (38)
Family status	With children	14 (28)	13 (26)
	Without Children	36 (72)	37 (74)
Education level	Primary	0 (0)	2 (4)
	Secondary	22 (44)	16 (32)
	Post-secondary	28 (56)	32 (64)

Table 2: Cronbach's Alpha Coefficient of Involvement Measure

Dimension of Involvement	All Respondents	Compact Camera Buyers	Digital Camera Buyers
Innovativeness (DSI)	0.75	0.64	0.78
CIP scale sub-components:			
Importance	0.75	0.75	0.71
Risk Probability	0.71	0.75	0.69
Symbolic Value	0.69	0.65	0.70
Pleasure	0.67	0.61	0.68
Interest	0.77	0.69	0.71

Table 3: Mean Values of Consumer Scales

	Consumer Group	N	Mean	Std Deviation	Std Error Mean
DSI	0	50	15.98	2.12	0.30
	1	50	16.44	2.33	0.33
Importance/ Risk of product class	0	50	12.88	3.29	0.47
	1	50	13.56	3.52	0.50
Hedonic	0	50	9.58	2.20	0.31
	1	50	11.32	2.15	0.30
Symbol	0	50	7.84	2.21	0.31
	1	50	9.38	2.63	0.37
Interest	0	50	8.48	2.00	0.28

	1	50	11.14	2.33	0.33
Risk	0	50	10.80	2.23	0.32
	1	50	12.16	2.32	0.33
CIP composite	0	50	49.58	7.22	1.02
	1	50	57.56	7.21	1.02

Note: 0 signifies conventional camera buyer and 1 signifies digital camera buyers.

Table 4: Anova Analysis of Consumer Involvement between Digital and Conventional Camera Buyers

Scale		Sum of Squares	df	Mean Square
Importance/ Risk of product class	Between Groups	11.560	1	11.560
	Within Groups	1,137.600	98	11.608
	Total	1,149.160	99	
Pleasure	Between Groups	75.690	1	75.690
	Within Groups	463.060	98	4.725
	Total	538.750	99	
Symbolism	Between Groups	59.290	1	59.290
	Within Groups	576.500	98	5.883
	Total	635.790	99	
Interest	Between Groups	176.890	1	176.890
	Within Groups	462.500	98	4.719
	Total	639.390	99	
Risk probability	Between Groups	46.240	1	46.240
	Within Groups	508.720	98	5.191
	Total	554.960	99	
CIP total	Between Groups	1,592.010	1	1,592.01
	Within Groups	5,106.500	98	52.107
	Total	6,698.510	99	
		F	Sig	
Importance/ Risk of product class	Between Groups	0.996	0.321	
	Within Groups			
	Total			
Pleasure	Between Groups	16.019	0.000	
	Within Groups			
	Total			
Symbolism	Between Groups	10.079	0.002	
	Within Groups			
	Total			
Interest	Between Groups	37.482	0.000	
	Within Groups			
	Total			
Risk probability	Between Groups	8.908	0.004	
	Within Groups			
	Total			
CIP total	Between Groups	30.553	0	
	Within Groups			
	Total			

Table 5: Correlations between Scales

	DSI	Mis-purchase	Hedonism	Symbolism
DSI	1	-0.090	0.182	0.317 **
Importance		1	0.041	-0.011

Pleasure		1	0.392 **
Symbolism			1.00
Interest			
Risk probability			
CIP			

	Interest	Risk	CIP
DSI	0.219 *	0.050	0.194
Importance	0.092	0.206 *	0.510 **
Pleasure	0.684 **	0.215 *	0.695 **
Symbolism	0.340 **	0.237 *	0.588 **
Interest	1	0.366 **	0.751 **
Risk probability		1	0.620 **
CIP			1

** Correlation is significant at 0.01 level (two-tailed)

* Correlation is significant at 0.05 level (two-tailed)