FAMILIARITY: PRODUCT USE, INVOLVEMENT OR EXPERTISE?[1]

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Abstract

This paper discusses the concept of "familiarity" in terms of expertise and product use. Then it empirically tests the relationships among product use, involvement and expertise.

Introduction

The term product familiarity has emerged as an important explanatory variable in recent consumer research studies (e.g., Johnson and Russo 1984; Punj and Staelin 1983; Bettman and Park 1980). The problem to date is that there is little continuity among research studies as exactly what constructs compose familiarity. The terms product use, knowledge structure and involvement have all been used in conjunction with the term familiarity. Whether or not these terms are interchangeable is the focus of this paper.

Lessig and Park (1981) suggest there are two approaches to measuring product familiarity: a) how much a person knows about the product and b) how much a person thinks s/he knows about the product. For example, a home economist might be an expert or know a lot about sugar. S/he knows there are several forms of sugar (e.g., lactose, fructose and glucose) all with varying levels of sweetness which break down to very similar elements to supply the body with energy. On the other hand, a lay person might also know a lot about the various forms of sugar and recognize them as honey, brown sugar and molassess in their varying degrees of sweetness. The lay person might not realize that each sugar breaks down to different proportions of the same basic elements, C, H, and O once in the body. The two people may have different knowledge structures about sugar and yet may have equal sugar use patterns. What we think we know about a product may come from using that product. What we actually know about a product may be derived from some objective formal or self-training, advertising, heresay, etc., and not necessarily just from product use. Therefore, the two approaches of actual knowledge, measured objectively, and perceived knowledge, measured subjectively, may have different relations to product use. Researchers should be concerned with this conceptual and empirical precision when investigating the impact of familiarity on decision processes.

Prior Studies

The integration of product use as a measure of familiarity in addition to self-reported knowledge is evidenced in Bettman and Park (1980). They refer to prior knowledge and experience as factors which influence consumers' information search strategies. The criteria for categorizing subjects into groups of low, medium and high experience/prior knowledge with microwave ovens were factors of product ownership, product use, search for product information and a manipulation of added product information. The manipulation check for this categorization consisted of asking subjects how familiar they were with the product. Familiarity was defined in terms of knowledge about which features are important in selecting a brand of the product. In one study, then, the terms experience, prior knowledge, product ownership, product use and familiarity are all used to classify subjects on a single meaning.

Two more recent studies have used surrogate terms for knowledge or familiarity as the independent variable in the study of decision processes. Usable prior knowledge was measured by Punj and Staelin (1983) by a seven point previous satisfaction scale; time since last purchase; total purchases; and a self-report measure of the decision maker's opinion on the purchase. This study also measured prior memory structure of the product by the number of previous purchases; a self-report question on reading magazines, selling the product, and working on the product; level of education; and self-report on ability to judge product.

Using these measures as surrogates for the same constructs used in the Bettman and Park (1980) study, they find conflicting results and concluded consumers with highly developed product class knowledge structures do not seek less information. This contrary finding may well be due to the different surrogate measures of the knowledge/familiarity construct rather than any true difference.

In a similar vein of research, Johnson and Russo (1984) treat familiarity as synonymous with knowledge. In their study they measure familiarity of automobiles by three variables: 1) number of cars ridden; 2) number of cars owned and 3) a five point self-report scale on knowledge of automobiles as compared to the rest of the population. The highly familiar subjects are also thought to be developed experts. Granted, product use and knowledge may be related, however experimentally each variable may have a different impact on the consumers' information search strategies.

In addition to product use or knowledge, a third construct, namely, involvement, was suspected of contributing to obtained results in information search studies. Using the same data and classification scheme, Park and Lessig (1981) investigated the impact of familiarity on confidence in decision, decision time, satisfaction and use of various attributes. Although they found significant differences among low, medium and high product familiarity subjects on the use of these decision heuristics, they concluded that the subjects' level of involvement with the product category could have contributed to their results. They suggested that motivation (interest or involvement) rather than the subjects' perceived knowledge was the underlying factor influencing the subjects' information search processes.

An initial investigation trying to separate involvement from knowledge was done by Sujan (1983). Using an objective measure of expertise or knowledge structure rather than a subjective measure of familiarity, she found involvement and expertise to be correlated (r = .51 N = 126) for 35mm cameras. However she argued that knowledge has an independent effect on information processing, as involvement could not explain the information processing pattern of results obtained for experts. The result remained the same even when the influence of involvement was partialled. Hence, she concluded consumer knowledge has an effect on evaluation processes independent of interest or involvement in the product category.

Therefore, expertise may not be necessarily related to involvement because involvement is a motivational construct whereas expertise is a sustaining construct representing knowledge structure. One does not necessarily have to be an expert in order to be involved with the product. However, involvement may motivate one to gather information and in time become increasingly knowledgeable about the product.

A Study of the Relationships

To investigate the relationships among involvement, expertise and product use, the following preliminary study was designed. The purpose of this investigation was to demonstrate there may be a difference between product use and true knowledge. It was meant to be exploratory, not definitive.

Product Use and Involvement

Involvement is thought to be related to product use by various researchers (e.g., Tyebjee 1979). This relationship was thought to occur because part of involvement is defined as being personal relevance as related to needs of the individual (Engel and Blackwell 1982). Use of the product would, therefore, fulfill a need the consumer has toward the product.

The expectation was that people who use a product frequently should be more involved with that product than people who use that product infrequently. In other words, people who seldom use the product should not be very involved with the product. This proposition was examined by 68 undergraduate students for the product categories of calculators, headache remedies and mouthwash, and by 40 MBA students for the product categories red wine, 35mm cameras and breakfast cereals. Subjects were administered a valid scale of product involvement and product use questions over the various products during class time.

The specific measure of product involvement used was a 20 item semantic differential scale, named the Personal Involvement Inventory (PII), developed and validated by Zaichkowsky (1984). Subjects were grouped into either relatively high involvement or relatively low involvement based on the scale mean involvement score. The measure of product use was a categorical measure tailored to the specific product. Pretesting indicated great difficulty getting a continuous measure of product use as different products had different time use patterns. Therefore product use cannot be directly compared across product categories. Using the chi-square statistic, use was positively related to the PII scores for headache remedies and mouthwash, but not for calculators. The results for the MBA students showed use was related to involvement scores for all of breakfast cereals, cameras and red wine. The results of these analyses are found in Tables 1 and 2. Taken as a whole, these results support the expectation that product use is related to involvement.

Although the data generally confirms expectations, the limitation of these results lies in the fact these product categories do not represent a wide range of products. There may be a class of products where involvement and product use are correlated and another set of products where involvement and product use are not correlated. It is plausible that product use and involvement are correlated when use of the product is optional, i.e., there are a series of product substitutes. For example, milk, tea, coffee, soft drinks and fruit juices are all beverages which may be substituted for one another. Being highly involved with tea would lead one to choose tea over coffee, over milk and perhaps over soft drinks. Therefore consumption of tea and involvement with the product class of tea would be highly related.

TABLE 1

Product Use By Involvement Score: MBA Subjects

PRODUCT	Low Scores ($\leq$ 89)	High Scores ($\geq$ 90)	
35mm Cameras**			
once a month or more	1	12	(13)
1-3 times every 6 months	0	14	(14)
less than once every 6 months	8	5	(13)
	(9)	(31)	(40)
	χ^2=17.1	df=2	p<.001
Breakfast Cereals**			
once a week or more	8	7	(15)
about once a month	9	1	(10)
less than once every 6 months	14	1	(15)
	(31)	(9)	(40)
	χ^2=8.1	df=2	p<.05
Red Wine			
once a week or more	0	10	(10)
about once a month	6	11	(17)
less than once every 6 months	13	0	(13)
	(19)	(21)	(40)
	χ^2=24.4	df=2	p<.001

** The chi-square statistic suffers from too many cells with expected cell frequencies less than five, therefore interpretation may be tentative. This asymmetric distribution of involvement scores suggest breakfast cereals are a relatively low involvement product and 35mm cameras are a relatively high involvement product.

On the other hand, toilet paper, paper towels and kleenex are all paper products and designed for a specific use. I do not think that these products are seen as substitutes for each other. Use of non-substitutable products may not be related to involvement with the product category. In the results obtained for students and calculators, use and involvement are not related. The necessary use of calculators probably leads to this result.

Expertise and Involvement

Although Sujan (1983) suggested that involvement and expertise are not necessarily correlated for cameras, this proposition was again examined for replication and extension to another product category. The relationship between expertise or knowledge and involvement was examined for the product categories of 35mm cameras and red wine. A battery of 15 questions pertaining to expertise of cameras (Sujan 1983) and 11 questions pertaining to the expertise of wines (Reizenstein and Barnaby 1978) were administered to 28 of the MBA students along with the PII scale during class time. These questions were all multiple choice with four answers to choose from for each question. Examples of expertise questions for the two product categories are as follows:

TABLE 2

Product Use By Involvement: Psychology Subjects

PRODUCT	Low Scores ($\leq$ 89)	High Scores ($\geq$ 90)	
Headache Remedies			
1-3 times a week	0	7	(7)
1-3 times a month	3	22	(25)
1-3 times every 6 months	9	5	(14)
less than once every 6 months	17	5	(22)
	(29)	(39)	(68)

$$\chi^2 = 28.3 \quad df=3 \quad p<.001$$

Calculators**	Low	High	
6-7 times a week	2	16	(18)
1-5 times a week	3	23	(26)
1-3 times a month	1	10	(11)
1-3 times every 6 months	3	10	(13)
	(9)	(59)	(68)

$$\chi^2 = 1.4 \quad df=3 \quad ns.$$

Mouthwash	Low	High	
3-7 times a week	3	11	(14)
1-6 times a month	5	9	(14)
1-3 times every 6 months	11	11	(22)
never have used	16	1	(17)
	(35)	(32)	(67)

$$\chi^2 = 18.9 \quad df=3 \quad p<.001$$

** The chi-square statistic suffers from too many cells with expected cell frequencies less than five. Therefore interpretation is tentative.

35mm Cameras

1. A 110 camera produces a negative whose area is about _____ the size of a 35mm.

   a) 3/2   b) 1/4
   c) twice   d) the same

2. A viewfinder that prevents you from seeing exactly what the lens sees suffers from a _____ error.

   a) focal   b) metering
   c) convergent   d) parallex

Wine

1. What is (are) the appropriate wine(s) to decant before serving?

   a) Vintage Port   b) Zinfandel
   c) Chardonnay   d) Cabernet Sauvignon

2. What is the recommended age for consumption of California Burgandy?

   a) immediate   b) 1-2 years
   c) 2-5 years   d) after 5 years

The results of a correlational analyses showed no relation between expertise and involvement scores. The Pearson correlation coefficient between the involvement score and the expertise scale for 35mm cameras was .14

(not significant) and for red wine and the expertise scale for wine in general was -.08 (not significant). It should be kept in mind that the measure of product knowledge used in this investigation was an objective measure of expertise, not a self-report measure of knowledge about the product. There may be a great deal of difference investigating "true experts" and "self-reported experts". Self-reported experts may think they know a lot and report they know a lot, but yet given an objective measure of expertise may not score highly. Therefore a self-reported expert measure may be highly correlated with involvement in the product category.

Some caveats are in order about the scales used to measure expertise of cameras and wine. The validity and reliability tests of these scales were not reported by their authors. As an emerging field of study, future studies which measure knowledge structures by scales should calculate p values as well as inter-item correlations (Nunnally 1978).

Expertise and Product Use

The relationship between product use and expertise was examined over wine and 35mm cameras for 28 of the same MBA students. Subjects were divided into relatively high and relatively low scorers on expertise and then, those who use the product more than once a month and those who use the product less than once a month. The result of the chi-square analyses for wine was $\chi^2 = .02$ df = 1 not significant and for 35mm cameras, $\chi^2 = 1.14$ df = 1 not significant. As this study uses relatively simple measures and analyses, more sophisticated studies should be carried out to substantiate these results.

Discussion

This preliminary study suggests that expertise and product use may not be interchangeable. Furthermore, involvement and product use may be related while involvement and expertise may not necessarily be related. When we measure self-reports about knowledge and product use as a surrogate for measuring knowledge structures, we may be tapping into the person's involvement with the product class rather than complexity of one's knowledge structures in memory. Therefore measuring familiarity as a combination of product use and subjective knowledge structure may not be as insightful as measuring product use and objective knowledge structure.

This suggestion for separating product use and objective knowledge structure in experimental studies seems in line with decision theorists approach to studying memory structures. They define familiarity as a latent construct and manipulate or measure it as a function of number of previous exposures (Simon and Feignbaum 1979). Experimentally, familiar stimuli are distinguished from meaningful stimuli. Generally we find experts are able to recognize meaningful stimuli. An expert is anyone whom we judge has acquired special skills in knowledge of a particular subject. The decision literature also suggests high meaningfulness implies high familiarity, although high familiarity does not necessarily imply high meaningfulness.

Improvements on Measuring Produce Use and Expertise

One of the problems I had with gathering data was the measure of product use. How does one define product use in a universal sense over many product categories? For future studies, perhaps one might employ an index of product use made up of two variables. The first would be frequency of usage or how often the product is consumed. This variable would represent depth of consumption. For frequently purchased packaged goods, depth would be number of occasions per time period the

product was purchased. For durable goods depth might be number of times in the time period the product was used.

The second measure would be designed to capture the breadth of consumption. The breadth of consumption measure for durable goods might be a variety of use situations, e.g., for cameras, use indoors, outdoors, flash, touring, studio, etc. For non-durable goods this variable might be measured by counting the number of brands the person has consumed or purchased over a given time period. Product use then would be defined as two variables representing breadth and depth of consumption experience. These two variables could be analyzed separately or jointly. On an aggregate level, breadth and depth of purchase might be multiplied together to give an index of product use. The multiplicative model of the breadth and depth may conceptualize product use more efficiently and looking at each variable separately may give greater understanding.

The measurement of objective knowledge structure is much more difficult to develop in a general way. First the researchers themselves must know what constitutes an 'expert' in the product class. The decision theorists seem to circumvent the problem of measuring expertise by going to known groups of experts (Simon and Chase 1979). In general consumer research, going to known experts might not always be feasible. Therefore researchers might want to develop their own battery of questions to identify true experts following Sujan (1983). Tests of internal reliability and p-values should then be carried out for any developed measure.

<div align="center">Summary</div>

Consumer researchers should be more precise in what they mean by familiarity when investigating the impact of familiarity on decision processes. This preliminary study demonstrated that the measures of product use and a person's objective knowledge structure about the product may not necessarily be related. Product knowledge was also shown not to be correlated with involvement to the product. The results did show that generally involvement and product use are correlated.

These findings are important in demonstrating that researchers should separate knowledge from product use when doing research in the future. Combining both as one variable may lead to erroneous conclusions. Furthermore, if researchers adopt a common operationalization of familiarity, they may be more confident in comparing results across studies.

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