A MEANS-END ANALYSIS OF LINKAGES BETWEEN BANK ATTRIBUTES AND CONSUMER VALUES: A CORRELATIONAL APPROACH

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Means-end chain theory suggests that attributes are the means through which products and services deliver values to consumers. This study examined the nature of the relationship between bank attributes and consumer values using a regression analysis of survey data. The results indicate that variation in the extent to which banks deliver a specific value to consumers can be explained by variation in bank performance across attributes relevant to that value.

INTRODUCTION

The means-end chain theory of consumer knowledge suggests that consumers give personally relevant meaning to attributes by linking them to personal values (Peter and Olson 1992). According to this theory, products acquire utility by possessing attributes that consumers see as being instrumental to the satisfaction of important values. Means-end chain researchers have studied linkages between attributes and values primarily through the use of an in-depth interviewing technique called laddering. While laddering research has verified the existence of means-end chains and produced a wealth of insights, a weakness of this technique is that it produces qualitative data which is often unique to the individual and thus difficult to aggregate. As a result, the nature and strength of relationships between attributes and values have not received a great deal of quantitative analysis at the aggregate level. This paper will seek to contribute to the means-end chain literature by presenting the results of a study in which associations between attributes and values are examined at the aggregate level through the use of a regression analysis of survey data.

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MEANS-END CHAINS

Means-end chains are knowledge structures in which consumers link the attributes of products to their own personal values. In terms of definitions, attributes represent the objective (price, features, specifications) and subjective (style, taste, prestige) characteristics of products that provide benefits to consumers. Values are the high level life goals that consumers strive to achieve (Peter and Olson 1993). Values are important because they represent ideals that consumers use to guide prospective behavior and evaluate past actions (Kamakura and Novak 1992; Rokeach 1973; Schwartz and Bilsky 1987). The underlying premise of means-end chain theory is that consumers view attributes as the means through which products fulfill their values.

In terms of the structure of means-end chains, the primary construct that connects attributes to values is consequences (Gutman 1982). This structure is conceptualized such that product attributes are linked to their consequences, and those consequences are then linked to personal values. Thus according to this view, a consumer might desire an attribute (such as high horsepower in a car) because it provides a favorable consequence (the ability to drive fast) that satisfies a value (a feeling of excitement).

Means-end chain research has been found to be particularly useful in the area of advertising strategy (Reynolds and Guttman 1988; Reynolds and Rochon 1991). Means-end chains have been used to identify the underlying reasons why consumers desire certain attributes thus giving marketers a better understanding of the types of appeals that are most likely to be effective in convincing consumers to buy their product. Overall, means-end chain research has shown that even though values operate at a fairly distant level, they are still an important component of the consumer decision making process because they ultimately determine the importance and/or desirability of attributes.

LADDERING

The methodological approach that has generally been used to study means-end chains has been laddering (e.g., Gutman 1982; Gutman and Alden 1985; Mulvey et al. 1994; Reynolds and Gutman 1988; Walker and Olson 1991) Laddering is an in-depth interviewing process whereby respondents are asked a series of questions that seek to uncover the deep personal meanings that consumers give to attributes. In this process respondents are typically asked which attributes of a product are salient to them and what the consequences or benefits of these attributes are. Once these consequences have been uncovered, respondents are subjected to a series of probing "why is this important to you" questions to determine why the consequences are desired. Such questioning continues until the consequences are finally related to the fulfillment of values.

According to Guttman (1991) the laddering approach is useful because values are very distant from consumer choice and only through such in-depth probing of the intermediate consequences of attributes can connections between product attributes and personal values be uncovered. Thus the greatest strength of laddering is that it not only can determine which values are linked to which attributes, but it can also detail the logical processes used to make these linkages.

In terms of deficiencies, one of the weaknesses of the laddering approach is that it generates qualitative or nominal data. This is noteworthy because qualitative data lacks the measurement precision of metrically scaled data, and thus places strong limits on the types of mathematical analysis that may be performed (Anderson, Sweeny and Williams 1993: Bush and Burns 1995). A second deficiency of laddering is that the "why is this important to you" probes used to elicit responses do not require subjects to indicate the strength of their linkages between attributes, consequences and values. Linkage strength is important because consumers can associate more than one value to an attribute, and different consumers will likely make different attribute-value associations (Mulvey et al. 1994). As a result it can be difficult for researchers to make overall determinations of which values are most closely linked to which attributes. Laddering researchers have relied on response frequencies (the value respondents have most often linked to an attribute) as a means of assessing linkage strength at the aggregate level (Guttman 1991; Walker and Olson 1991). However as Guttman (1991) points out, it would be more desirable to measure the strength of connections independently of their frequency of occurrence.

The laddering based research on means-end chains should be commended for providing strong evidence that consumers link attributes to values and for yielding insights as to how these connections are made. While laddering has become synonymous with means-end chain research, Guttman (1991) has indicated laddering is only one of many approaches that can be used to study relationships between attributes and values. For example, Pitts et al. (1991) used a correlational approach to study the effect that values have on evaluations of the consequences of ethical situations. As a result it is believed that investigations of relationships between attributes and values using alternative methodologies could broaden our knowledge of means-end chains as well as cross-validate what we have learned from laddering research.

RESEARCH PROPOSITIONS

The current study will examine relationships between product attributes and consumer values using a regression analysis of survey data. A survey approach was used for three reasons: 1) it allows for an opportunity to see whether findings derived from laddering studies can be replicated using an alternative methodology, and 2) it enables constructs to be assessed using quantitative rather than nominal measures thus allowing for a more powerful assessment of the strength of linkages between attributes and value, and 3) it allows for a demonstration of how means-end chain relationships can be examined with surveys, a methodology commonly used in industry (Kinnear and Taylor 1996). Three general research propositions will be tested in the current study.

Proposition 1: The extent to which consumers link a product to personal values (value linkages) is dependent upon the extent to which consumers believe that a product provides valued attributes.

Proposition 2: The extent to which a particular attribute influences the linkage between a product and a value will vary depending upon the relevance of the attribute to the value.

Proposition 3: The extent to which attributes as a group can explain variance in a value linkage will vary depending upon how strongly the value is linked to the product.

All three of these propositions are based on means-end chain theory and relate to issues regarding linkage strength. Since this research is of an exploratory nature it cannot be predicted a priori which attributes will be linked to which values, however it is expected that these linkages will manifest themselves in ways consistent with the three research propositions stated above. Proposition 1 is based on the basic premise of means-end chain theory that attributes are the means through which products fulfill or express personal values. Thus the extent to which a product is seen as evoking a particular value should be determined by consumer perceptions of the attributes it provides.

With regards to Proposition 2, means-end chain theory suggests that different attributes often satisfy or address different values. As a result, the influence of an attribute on a particular value is likely to vary depending upon the relevancy or perceived instrumentality of the attribute to the value. With regards to Proposition 3, it is assumed that there will be variation in the strength with which different values are linked to the product. Since means-end chain theory suggests that attributes are what connects products to values, attributes should be better able to explain variance in cases where a value is more strongly linked to a product than in cases where the product-value linkage is weaker.

METHOD

In this study, the relationship between attributes and values were examined in the context of consumer evaluations of banks. A nationwide sample of bank customers was surveyed as to their perceptions of the performance of banks (in comparison to credit unions and savings and loans) across a series of 15 financial service attributes and to the extent to which they felt banks provided five specific consumer values. The survey data were then analyzed using a series of multiple regressions in which each value linkage served as the dependent variable and the bank attributes served as independent variables.

Banks were considered a good subject for this research because, as a service, its attributes are essentially intangible. As a result, typical bank attributes (e.g., speed of service , convenience of location) are almost synonymous with consequences rather than physical characteristics. Thus by using a service, it was believed that there would be a tighter relationship between attributes and values and thus lessening the need to consider the effects of consequences or other constructs that might mediate relationships between attributes and values.

Measures

Attributes: Linkages between banks and banking attributes were assessed by asking respondents to evaluate the performance of banks (as compared to other types of financial institutions), across a series of 15 attributes. The specific attributes used in the study were generated from previous studies done within the banking industry and from academic literature (Calantone and Sawyer 1979; Murdoch and Roe 1986; Sinkula and Lawtor 1987). From this pool of potential attributes 15 were selected for use in the study based on the results of a pre-test. These 15 attributes were: *convenience of hours, convenience of location, service charges and checking fees, safety/reliability of the institution, clarity of statements, accuracy of statements, staff friendliness and courtesy, staff efficiency and speed of service, staff knowledge of available services, staff concern for customers, staff solves problems quickly, low interest rates on loans, length of time to get a loan approved, and knowledge* and *concern of loan officer*. Attributes were then measured by having subjects indicate their perceptions of how well banks perform on each attribute on a five-point Likert scale ranging from very strong performance to very weak performance.

Value Linkages: Linkages between banks and consumer values were assessed by asking respondents to evaluate the degree to which they experience certain values when they use a bank. A preliminary set of values was obtained from Kahle's (1983) list of values (LOV) and Rokeach's (1973) value survey. Consultation with financial institution marketers produced some preliminary opinions as to which values were relevant to their customers. In particular it was felt that a major goal of many financial institutions was to elicit feelings of security and belonging from their customers. Consumer focus groups were conducted in order to test some of the marketers' suggestions and to identify additional consumer values relevant to financial institutions. A pool of values were elicited from these sessions, and were subsequently submitted to a pre-test of consumers in order to determine their perceived relevancy to banks. After analyzing the results of the pretest, five values were selected for use in the final questionnaire. The five selected values were: Belonging, Respect, Security, Importance, and Attachment.

The values Belonging, Respect and Security were taken from the LOV. Importance is similar in nature to Respect but is thought to be more of a satisfier (its presence adds to satisfaction) while Respect is thought to be more of a dissatisfier (its absence adds to dissatisfaction). Attachment and Belonging are also similar but Attachment reflects more the affect that consumers have for banks while Belonging is more of an indicator of how much affect consumers feel banks and their staff have for them. All five value linkages were measured by having subjects indicate on a five point agree/disagree scale, the extent to which they experience these values when they use a bank.

The Sample

After the final questionnaire was completed, data for this study were collected using a nationwide mail survey of licensed drivers ranging in age from 21 to over 80. The sampling method followed Dilman's (1978) total sampling design method. Several months prior to mailing the questionnaire, a first-class letter was sent to the sample members to correct address changes and alert them that the questionnaire was to arrive shortly. A week after the questionnaire was mailed a reminder card followed. Approximately six weeks later a second mailing of the questionnaire went to nonrespondents. A final response rate of 65 percent was achieved. While it is certainly possible that some nonresponse bias is present, this is considered to be an acceptable response rate since it is well above the 47.3 percent, which is the average that a comprehensive literature review of journal articles found for mail surveys (Yu and Cooper 1983). For the current study, a total sample size of 1,885 was obtained for use after a screening question identified those respondents who had indicated they considered a bank to be their primary financial institution.

RESULTS

The relationships between attributes and values were analyzed using generalized least squares regression. A separate regression analysis was run on each of the five value linkages with the 15 banking attributes serving as independent variables in all five analyses. The results of these analyses are presented in Table 1. In summary, the results indicate that in each of the five regression analyses, perceived attribute performance was able to significantly explain variation in the extent to which consumers linked banks to personal values.

TABLE 1
Results of Multiple Regression Analysis: Standardized Regression Coefficients

Attributes X's	Respect	Belonging	Values Y's Security	Attachment	Importance
convenient location	n.s.	n.s.	.06*	n.s.	.s.
convenient hours	n.s.	.06*	n.s.	n.s.	n.s.
service charges	n.s.	.10**	-.05*	.11**	.09**
safety/reliability of institution	.07*	.11**	.27**	n.s.	n.s.
clarity of statements	n.s.	n.s.	n.s.	n.s.	n.s.
accuracy of statements	n.s.	-.09**	.17**	-.08*	-.09*
interest rates on deposits	.06*	.08**	.10**	.09**	.11**
friendliness of staff	.16**	.09*	n.s.	n.s.	.08*
knowledge of staff	n.s.	n.s.	n.s.	n.s.	n.s.
ability of staff to solve problems	.14**	.13**	n.s.	.12**	.11**
concern of staff	.11**	.17**	n.s.	.10*	.17**
interest rates on loans	n.s.	n.s.	.07*	.09**	n.s.
time to process loans	n.s.	n.s.	n.s.	n.s.	.n.s.
knowledge of loan officer	n.s.	n.s.	n.s.	n.s.	n.s.
R-square	.39	.40	.45	.27	.31
Significance level	(<.001)	(<.001)	(<.001)	(<.001)	(<.001)
Mean (5pt scale)	3.67	3.46	4.08	3.25	3.39

* $(p < .05)$; ** $(p < .01)$; n.s. $(p \geq .05)$

Research Proposition Results

The results of the regression analyses are interpreted as providing support for each of the three research propositions. With regards to Proposition 1, evidence was found that value linkages are affected by perceptions of attribute performance. The extent to which attributes explained variation in value linkages varied from a high of 44 percent for the value Security to a low of 27 percent for the value Attachment. These results thus provide some cross method validation of the existence of the attribute-value linkages described in means-end chain theory and previously found in laddering based research.

With regards to Proposition 2, the relative importance of an attribute in explaining variance in a value linkage did vary from value to value. Only one attribute, *interest rates on deposits*, was a significant predictor for each of the five value linkages and no two value linkages shared the exact same set of significant predictors. In only one instance did the same attribute (*concern of staff*) explain the greatest amount of variance in two different value linkages (Importance and Belonging). It should be noted however that while *concern of staff* did have the largest standardized regression coefficient in these two analyses, it was an insignificant predictor of the value Security.

With regards to Proposition 3, evidence was also found that the ability of attributes to explain variation in value linkages was affected by the strength of the value linkage. The strength of linkages between values and banks was measured on a five point scale, and it was expected that those values that respondents most closely linked to banks would have more variance explained by attributes. The rank order of value linkages in terms of R^2 explained by attributes is as follows: Security (44 percent), Belonging (40 percent), Respect (39 percent), Importance (31 percent), Attachment (27 percent). Similarly the rank order of value linkages in terms of mean responses (on a five point scale) is as follows: Security (4.08), Respect (3.67), Belonging (3.46) Importance (3.39) and Attachment (3.25). Thus with one exception, the rank ordering of value linkages is the same for both R^2 and means, thus indicating that the stronger the linkage between a bank and a value, the more effective means-end chain theory will be in explaining variation in that linkage.

Empirical Findings

In addition to the findings regarding general relationships between attributes and values, examinations of the five regression analyses also yields findings regarding the specific relationships between attributes and consumer values within the banking industry. As previously discussed, the value that attribute linkages were best able to explain was Security. It is believed that the primary reason for this is that Security is the value most relevant to the primary function of banks, to protect one's money. By a large margin the most important determinant of Security was found to be the attribute *safety and reliability of the institution*. It is believed that the reason for this strong relationship is that a feeling of Security is undoubtedly affected by consumer beliefs about the likelihood that their financial institution will experience a failure and thereby put their savings at risk. This is why fostering an image of safety and reliability has always been critically important for financial institutions. The next most important attribute in determining Security was the *accuracy of statements*. This was probably less related to anxiety about bank failure and more reflective of accurate record keeping of their accounts. The third most important attribute in terms of Security was *interest rates on deposits*. This relationship was most likely related to concerns about opportunity costs associated with failing to get market rates on one's deposits.

The value Belonging was found to be determined primarily by attributes related to the customer service provided by staff. The most important determinant was *concern of staff* and the next was *ability of staff to solve problems*. Also important in regards to Belonging were the attributes *safety and reliability of the institution* and *service charges*. Customer service attributes were also largely responsible for the value Respect. The three attributes with the greatest influence on Respect were, in order of importance; *friendliness of staff, ability of staff to solve problems*, and *concern of staff*. In comparison to the value Belonging, *safety and reliability* and *service charges* were less important determinants of Respect.

The set of attributes that most affected evaluations of the value Importance were similar in nature to those that affected Belonging. The three most influential attributes were the customer service attributes *concern of staff and ability of staff to solve problems* along with the financial attribute *interest rates on deposits*. Finally the value linkage with the weakest connection to attributes was Attachment. It is speculated that the reason why this value had the weakest relationship with attributes is that Attachment focuses on consumer affect toward banks rather than on the extent to which consumers feel their bank is giving them the sense of respect, importance and belonging they are entitled. It is likely that consumers will not have feelings of attachment toward banks unless they feel they are receiving an adequate amount of appreciation for their business. Like the other values besides Security, the customer service attributes *concern of staff* and *ability of staff to solve problems*, were the important determinants of variation in Attachment. Also important here were *service charges* and *rates on deposits*.

In summary, the results of the five regression analyses indicate that the bank attributes that were found to have the greatest influence on consumer values in general were the ones related to customer service. In particular the attributes *concern of the staff* and the *ability of staff to solve problems* were the ones that had the most consistently strong relationships with values. Of the non-service attributes the two most important were *interest rates on deposits*, which was the only attribute to be a significant predictor of all five values, and *safety and reliability of the institution*, which had a stronger relationship with the value Security, than any other attribute had with any other value.

CONCLUSIONS

The results of the current study produced several noteworthy findings. First, new evidence was found that attributes are the means through which consumers link products to values. While research on means-end chain theory has long proposed and found evidence of attribute-value linkages, previously they had been examined almost exclusively using a laddering methodology. The significant linkages that were found between attributes and values in the current study suggest that the extent to which a product or service satisfies desired values is determined in large part by attribute performance. This interpretation of the causal order is consistent with means-end chain theory which views values as the ends that consumers are seeking and attributes as the means through which they are achieved.

A second important finding was that different values were associated with different sets of attributes. This is important because it suggests the following three implications: 1) Attributes will vary in their relevancy to different values, thus in order to satisfy a certain value, marketers must provide consumers with strong performance on those attributes that most greatly affect that value. 2) Value linkages are not just surrogate indicators of general affect or satisfaction, but rather are capable of differentiating performance on specific values. The fact that conceptually distinct values such as Security and Belonging were associated with very different sets of attributes suggests that these value linkages captured different aspects of bank performance. 3) The relationships that were found between attributes and values are not just due to halo effects. While halo effects are undoubtedly present to some degree, if they were the only cause of correlations between attributes and value linkages then the regression results should have been more similar across the five values.

In addition to these general findings, some conclusions can be also be drawn regarding the specific relationships between service attributes and consumer values in the banking industry. From the empirical findings it is inferred that two basic types of consumer values are most relevant to the consumers of financial institutions. The first is peace of mind regarding the handling of one's money. This was represented in this analysis by the value linkage variable Security. According to the results of the regression analysis the value Security is most likely to be achieved when consumers are confident that their bank will not fail, that it will keep accurate records of account transactions and that it will pay interest rates on deposits that are at or above the going rate for their market area.

In addition to peace of mind, the other general type of value most relevant to bank consumers is a sense that the bank appreciates one's patronage. This was represented in the analysis by the customer service-oriented value linkage variables: Respect, Belonging, Attachment and Importance. Regression analysis indicates that appreciation is most likely to be achieved when consumers perceive that the bank's staff are friendly, concerned about them, and able to solve their problems.

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