

ECONOMIC AND NON-ECONOMIC DIMENSIONS OF THE

CONSUMER INTEREST

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by

Alexander John Walter Pursaga

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ABSTRACT

The problems of the consumer have recently come to the forefront of public debate. Although traditional economic theory has been built upon the foundation of consumer sovereignty and policies and programs continue to be developed using this base, it is unclear as to what the fundamental elements of consumer motivation are. Whether the consumer is in fact sovereign or not, recent events indicate that he is no longer satisfied with the operations of the marketplace.

This thesis represents an effort to approach the problem of the consumer by means of the role theory developed by James McNeil. The additivity of attitudes and knowledge was relaxed in this application and a set of components were subjected to a questionnaire sampling.

The survey was submitted to members of a low-income food cooperative known as the Winnipeg Buyers Club, to members of the Consumers Association of Canada, and to members of the Department of Agricultural Economics and Farm Management of the University of Manitoba in August, 1973.

Under the assumption that those who have chosen to mark themselves off from the rest of society as consumers will have developed their attitudes towards consumption to a heightened level, the survey was administered. In addition a further narrowing of scope was achieved by sampling consumer attitudes with respect to food alone. In this way it was hoped that the most crystallized picture of the consumer role could be achieved.

The components which were sampled were:

1. Price Level
2. Meaningful Choice
3. Price Stability
4. Competitive Environment
5. Product Availability
6. Production Efficiency

7. Distribution Efficiency
8. Pricing Efficiency
9. Nutritive Value
10. Physical Safety
11. Information
12. Ability to Voice Grievances
13. Quality
14. Representation

The results of this questionnaire were submitted to a multidimensional scaling analysis.

For each group the scalings were noticeably different. However, within each group's scaling the psychological distances from the "ideal point" were arranged in an identical order. It was therefore concluded that social and economic pressures arising from disparities in disposable income had a direct effect on the location of the consumer's attitudes and not upon the priorities attached to those attitudes. In this sense the components were shown to span the basic consumer role with respect to food.

Given that the sample groups were those individuals who had somehow decided to label themselves as consumers, it was also concluded that a consumer policy which could be enacted would have the following form:

- a policy of supervising the efficiency of the free market,
- enforcement of a strong set of competition guidelines, and
- the generation of a consumer information and education program

However, any success in this area is dependent upon a social policy which is effective in redistributing income in order to modify the social and economic pressures which constrain the free performance of the consumer role.

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CHAPTER I

INTRODUCTION

1. THE PROBLEM AND ITS IMPORTANCE

If the economy is to be metaphorically described as a giant wheel, then the consumer may be assumed to be its hub. Inasmuch as the hub of the wheel directs the centrifugal forces of its own motion outwards along the spokes, so too does the consumer, through the expression of his demands, motivate the utilization of labour, capital and raw materials for the production of goods and services. Equally, inasmuch as the centrifugal forces of circular motion must be balanced by the centripetal forces derived from the strength of the rim and spokes of the wheel; the centripetal economic forces must also be in balance. These centripetal forces must return to the consumer the goods and services which he has demanded at a price which he is willing and able to pay. In economic theory these centrifugal and centripetal forces have been given the status of the Laws of Demand and Supply respectively. In the absence of exogenous shocks and frictions, there is no reason why the gigantic wheel or the economy should ever come to rest once it has been set in motion.

However, this latter rather naive proposition of perpetual motion is not possible either for the wheel or the economy. In fact there are many rough roads along which the economy may travel and it may even be directed into dead-end situations. However, it is possible that the

economy may suffer from problems which are not exogenous but rather emanate from the very hub of its activity. The consumer, unlike the hub of the wheel, may well change the nature of its basic motion. Equally, the consumer may refuse to accept the goods and services which are produced in answer to demands. In either of these cases the hub may no longer wish to share in the continued motion of the entire wheel. For hubs and consumers there are, however, forces which tend to reduce the power of their control over the entire motion. This process is known as inertia. Once set in motion the forces which guide the wheel gain momentum from the mass of the entire wheel; hub, spokes, and rim. In the economic system, the consumer may be forced to go along as well in the interests of continued progress derived from the momentum of increased production, expanded employment opportunities, and other vestiges of economic growth. Thus the consumer, although the central element in all economic activity may be forced into a diminishing realm of importance as the economic system moves along.

However, consumers are human beings and as such retain the power of thought and at least the proposition of self-determination. It is this self-determination that has led to the generation of consumer groups which have tended to move outside the economic system: to create lobbies through which to interact with the political process, to create their own co-operative distribution systems, or in some cases to enter the social realm and boycott stores or establish pickets.

It is this phenomenon of consumer disaffection which has led to the recent debate over the consumer interest or consumerism. Whatever it may be called, it remains a modern phenomenon which has not been previously investigated.

It is the purpose of this thesis is to examine the nature of this phenomenon and to uncover some of the basic components of this interest. It is also intended to investigate the relationships which exist amongst the components of this phenomena, in the hope that they may lead to a better understanding and accommodation of consumer desires within the economic system. The danger of neglecting this task is purely hypothetical but may well lead to a drastic weakening of the economic system and expose it to even greater dangers from exogenous shocks. It is the scope of this analysis to concentrate on food as food is perhaps the most basic of all consumer goods.

The very existence of consumer disaffection implies that the factors involved in the illumination of the components of the consumer interest are not purely economic in nature. If they were, the resolution of consumer disaffection within the economic system would be a simple case of changing the types of goods and services which are being supplied. These changes would be part of the general process of economic activity and there would be natural neglect of the products which were produced but not demanded. This is the time honored concept of consumer sovereignty, which basically states that business will only produce what it can sell and if it cannot sell the product it will cease to produce it. Hence the natural tendency

would be that the consumer would have choices only among those products which he really wanted.

The basic assumption of this approach, however, is that the consumer actually knows what he desires, that the market is organized so as to permit these desires, and that they can be succinctly expressed in the marketplace. In a situation in which consumer goods are well-known in terms of their specifications for potential use and performance expectations, this assumption may well be upheld. However, in the modern market we have experienced a retail "revolution" in which the products among which we must choose have become more and more sophisticated, more and more numerous, and have come through the hands of many individuals. The sophisticated nature of the products requires a greater degree of expertise with which to judge them. The increasing number of products requires that this expertise be developed in an increasing number of areas. The expansion in the number of distributors has created a situation in which even if the consumer possesses the knowledge to judge a product to be deficient after purchase, he may not be able to find out to whom he should complain.

This retail "revolution" has not been detrimental in all of its aspects. No doubt the modern consumer is able to purchase products which serve his or her every need. Never before has such a great choice been available to the consumer. Similarly the consumer may consume products which were produced in areas of which the consumer has only a vague knowledge, and which may appeal to exotic tastes which could not otherwise be

satisfied. Consumer confusion and consumer oppulence may well cancel each other out in terms of their effects on consumer interest. However, the basic direction of this development has been the lessening of consumer knowledge and a concomitant reduction if not elimination of consumer sovereignty.

In the absence of consumer sovereignty, the basic economic factors affecting the consumer interest must be substituted by, or appended to, various non-economic factors which are necessarily normative. These non-economic dimensions may include elements of a basic faith that in the absence of knowledge possessed by the consumer someone else will act as his vanguard and ensure that he is not "wronged" in the marketplace. Therefore, price level and stability will remain necessary conditions for an understanding of the processes of consumer behavior, but we may no longer assume that they are sufficient conditions. Other concepts must be developed and explored before an understanding of consumer motivation can be uncovered.

In the remaining sections of this introduction the nature of the consumer interest will be developed and an approach to the problem formulated. The literature, although sparse, will be reviewed and a basic model proposed. The components will then be developed and a set of basic hypotheses stated. Finally the methodology for testing these hypotheses will be explained.

2. THE APPROACH TO THE PROBLEM

THE PARADOXICAL NATURE OF THE CONSUMER INTEREST

Before an attempt is made to specify the components of the consumer

interest it is necessary to develop a definition or description of the phenomenon. This is not an easy step to be taken, however, due to the fact that the consumer interest is plagued by two basic paradoxes. The first relates to the fact that while everyone is a consumer, no single individual is only a consumer. The second paradox occurs at a more aggregate level and relates to the fact that the political process will most often pay greater heed to another interest, for example, that of a producer than to a consumer interest on a contentious issue, although the consumers of any given product will almost certainly outnumber its producers.

The first paradox relates to the fact that everyone must be involved in activities which operate so as to reduce the time and effort which he may be able to spend on consumption. Usually a person must work in order to earn an income in order to have the funds necessary to finance consumption. Even after working an individual cannot hope to perform only as a consumer. Most individuals will be involved in social groups or other avenues of personal entertainment which also detract from the potential time and effort he is willing to spend on consuming.^{1/} This paradox has been assessed by Mitchell [49:279], who argues that the consumer is plagued with the "backwards art of spending money." This "backwardness" he identifies as the propensity of individuals to confront budgetary problems by means of attempting to increase their incomes, rather than to achieve better value from their expenditures by means of more careful scrutiny of the goods which they select.

The second paradox, while it may very well be an extension of the first paradox, was developed independently by Anthony Downs [22:149]. He

^{1/} It is argued here that even the so-called "welfare bums" will have activities competing for their time even if that activity is merely the avoidance of work.

presents this observation but does not interpolate or extrapolate this statement with respect to consumers alone. Some illumination may be cast upon this paradox if we recognize that one of its corollaries is that the common assertion that the consumer interest and the public interest are one in the same thing is false. This arises from the fact that the public interest is composed not only of consumers, but also of producers, distributors, retailers, and other economic actors. Although the same person may operate in several of these functions, all interests with the exception of the consumer's can be monitored in terms of flows of products which can be measured directly. Moreover, if it is the public interest to increase the welfare of its citizens, then it is essential that the nature of economic activity be expanded. This cannot be done if momentary intrusions are made on behalf of the consumer which could well slow down the entire system.^{1/} Moreover, the increased activity may generate increased incomes and hence operate in the same fashion as the Mitchell argument outlined above, although on a larger scale.

The implications of this second paradox in the political process have resulted in the preparation of a large number of pieces of legislation which have been designed to protect consumers in certain basic product areas. These pieces of legislation are very technical and relate to specific practices. In view of the fact that the British North America Act (1867) effectively placed consumer protection in the hands of both the federal and provincial governments, the product approach has led to a veritable maze of regulations which requires a battery of trained legal

^{1/} This logic is no doubt also used in order to eliminate the objections of environmentalists who dare to oppose certain industrial projects.

personnel to interpret. Inasmuch as the average consumer complaint rarely deals with a large dollar value of goods, it is unlikely that consumers would be willing to or able to pay for this legal interpretation.

[Neilson, (52:4-5)] Although we have established departments of consumer affairs at the federal level and in most of the ten provinces, the fact remains that these consumer representatives in the civil service must still deal with the same product approach to consumer problems. It is probably the case that even these public advocates are overly burdened with seemingly small considerations.

The dual paradoxes of the consumer interest tend to operate so as to continually relegate the consumers' economic function to a less than paramount status both at the individual level and in the political cum public domain.

DESCRIPTION OF THE CONSUMER INTEREST

The dual paradoxes of the consumer interest indicate that while consumption is necessary for survival it is often neglected in favour of other activities. This paradox is not uncommon for a broad class of activities which are known as social roles. Examples of similar important but often neglected activities include citizenship, the family roles of motherhood and fatherhood, and the basic roles of religious belief. Each of these bears the common element that many people neglect their performance of these roles until a pertinent crisis situation develops. The citizen who only attends a town-hall meeting when he discovers that his house is about to be expropriated; the mother or father who only return to spend time with their families when the children have been discovered using drugs,

and the individual who only returns to his church, synagogue, or other place of religious devotion for baptisms, bar mitzvahs, weddings and funerals all bear a great deal of resemblance to the consumer who only accentuates his role when he cannot get warranty service for his new car. It is not argued that we should all overreact to these roles and live them to the exclusion of all other considerations. However, it is argued that these very important roles lead to a natural neglect when the choices are made between them and other less taxing but more enjoyable or rewarding activities.

R. S. Downie [21:133] has defined a social role as a "cluster of rights and duties." If the above examples describe the concept of social roles accurately, then the implication is that for this particular set of roles it is the case that the duties are effectively discounted by the individual. This discounting of duties is contingent upon the ability of the individual to establish a set of priorities with which he will adjudicate potential role performance. It is argued that the priorities are a function of the attitudes which the individual possesses with respect to the perceived satisfaction which he may receive. As the attitudes of the individual become more entrenched they will establish the patterns of behavior which typify the individual.

For the purposes of this thesis the consumer interest will be interpreted as the consumer role and the role will be assumed to be primarily conditioned by the attitudes of the individual. This is not to say that the

attitudes will mark the limits of all things that may be included in the consumer role. Rather it states that the attitudes which an individual holds allow or force him to act to achieve his objectives within this domain by using behaviour. For example it is often argued that economic forces will constrain or free the individual to consume as much as he wants. However this approach describes only the boundaries of his activity. He may not know of the existence of these economic forces. He may not even care. However, when he does perceive a situation to exist, even if he is mistaken, he may very well pursue his desires anyway. It is the attitude, rather than the environment or boundary which forces activity to take place.^{1/} The precise relationship will be presented in terms of the specification of the model. The literature will now be reviewed in order to assess the assumptions and qualifications which are incumbent upon the interpretation developed above.

REVIEW OF THE LITERATURE

OBJECTIVES

Traditional economic approaches to consumption behavior have dealt with the proposition that the consumer is actively participating in the market with the intention of maximizing his pleasure. This premise automatically casts a great deal of importance on the success of his venture measured in terms of the physical goods which he has accumulated after his consumption activity. Consequently, in the traditional micro-economic and macroeconomic analyses, quantifiable variables such as income,

^{1/} Strong demand for housing came through mortgage rates have risen to historically high levels is an indication that the motivating factor in this case is not the feasibility of owing a house (economic boundary) but the desirability of owning a house (consumer attitude).

price level, and units of consumption goods have stood as sufficient indicators of the consumption activity. However, as George Katona, Burkhard Strumpel and Ernst Zahn [40:9] have concluded, these assumptions are not readily transferable across national boundaries and may in fact be suspect with respect to certain groups of people even within the mass consumption society of North America.

Moreover the concentration of efforts on measurable features of consumption leads to the concentration on the equilibrium values of these measurable factors. In essence, if the purpose of economic analysis is to monitor consumption in order to establish the nature of demands and supplies, which are always described in terms of dollars and units of product, then the science is a complete body in itself. However, if the purpose of economic analysis is to achieve an understanding of the consumer decision process, it would appear to have been side-tracked. Fleming Hansen [34:8] has argued that economic modelling always eliminates the intervening variables which may act as catalysts in the formation of consumption decisions. These variables are excluded simply because of the fact that in quantifiable terms they will cancel each other out. In terms of the qualitative judgments of the consumer they may well achieve varying degrees of importance that may in fact alter the entire decision process.

It has been a long standing feature of consumer analysis that the nature of the decision process can be readily manipulated through latent appeals to consumer emotions. Pleasantly decorated supermarkets which are air conditioned and surround the customer with soft recorded music are the rule rather than the exception. Pleasantly decorated packages covered

with suggestions as to what the purchaser may win, purchase at a reduced price, or even obtain "free" are common in all stores. The entire entertainment industry is supported by dollars spent by firms with the expressed intention of altering consumer purchase decisions.

The purpose of these illustrations is to indicate that the practice of economic activity has recognized the power of the non-economic nature of consumer behaviour. This recognition has been muted in the theoretical examination of the consumer. If it is in fact true that consumers only purchase products because of economic necessity, then these appeals should not work. However, they do work and in so doing reveal that there is a great need for an investigation of which values consumers place upon these non-economic variables. Indeed we may no longer assume that the "laws" of economics can operate with impunity in the modern market. Inasmuch as appeals to non-economic factors may spur the consumption processes it is equally likely that they may hinder them as well. If such hindrance is accumulated then the crises of faith in the market may well lead to socially disruptive phenomena.

This argument does not support the contention that consumers need to be cajoled and guided through the marketplace by a paternalistic public policy. On the other hand it does not support the contention that consumers must be continually exposed to arbitrary processes. Between these polar positions it is argued that the consumer should be protected from dangers which may arise but should not be constrained. In essence the "great wheel" of the economy, to return to the opening metaphor, must be kept on track. Before protection programs are initiated it is essential that we know what it is which is to be protected.

At this stage it will prove useful to crystallize the argument of this thesis with respect to the consumer interest. It has been argued that this interest is as diverse as the number of people who act as consumers. It has also been argued that behavior, the demonstrated results of activity, is also diverse although it may have certain common elements. The linkage between these two concepts has been proposed as the consumer role: the cluster of rights and duties, formed through knowledge and attitudes, and demonstrated through patterns of consumer purchasing decisions. The key therefore is to assess the consumer role as an entity in itself in order that the kernel, or central combination of attitudes and knowledge, may be understood.

MODELS

This thesis has lamented the traditional economic analysis of the consumer which has tended to neglect an examination of consumers as individually motivated economic actors. This lament should not be taken so as to imply that academic investigation of the non-economic factors of motivation have been totally neglected. However, these analysis have largely been the concern of the psychologist and sociologist. From this work it will prove useful to examine some of the models and illuminate the basic directions which have evolved.

There are basically two approaches to the analysis of a nebulous concept such as the consumer role. The first is to assume that there is sufficient commonality in all of these processes so that similar actions will result in similar situations. Therefore, all that is necessary is to "slice" through these variables and specify a particular function which

is most realistic in order to predict similar actions. This is a "slicing" operation, a separation of variables, on the assumption that each is mutually independent. This is also known as a unidimensional approach. The second method is much more conscious of the multiplicity of patterns which may be present in this type of activity. Rather than specifying a functional relationship and cutting through the set of variables, the variables are measured and interrelationships demonstrated. It is not possible to specify the predictable outcome of a related situation under this approach. Rather it is suggested that in similar situations it may be possible to determine the internal effect of these linkages and see which variables are discounted and which are accentuated in any particular situation. This is a more elastic approach and recognizes the multidimensionality of the process. Multidimensional modelling is more useful for explanation than prediction.

It will prove useful to investigate each of these approaches and determine the most effective method of examining the components of the consumer role for the task of this thesis.

Each of the unidimensional models attempts to determine the impact of attitudes on a net assessment of consumer satisfaction. W. Edwards[23] has proposed a model in which an individual appraisal of utility was contrasted against a net summation of general attitudes. The net impact of certain attitudes is then interpreted in accordance with the concept of satisfaction. Crespi[18] and Madsen[47] have developed models which contrast personal assessments of satisfaction with income and price level in the former case and net wealth, measured as purchases of consumer durables and net savings, in the latter case. These models have attempted to relate income and other economic concepts to prevailing

attitudes. However, in no case have the type of attitudes been specified. In 1958, D.D. Martineau[48] attempted to stipulate the nature of these attitudes by means of store patronage, the use of information sources, and social class attributes. Again these attitudes were contrasted with a net appraisal of self-perceived satisfaction.

In each of these models the choice of attitudes is not specified according to any particular theory. Correlation coefficients are used to establish prediction models and the results which are produced may or may not be valid. Moreover, they are particularly microeconomic in context and relate to very specific environments. If it is the purpose of this thesis, as stated, to develop a general understanding of the consumer role, such a "slicing" operation would appear to be much too refined. In addition it may be a useful approach to suggest methods of motivating consumers but allows for no internal feedback within the model and hence reduces the power of explanation.

A multidimensional approach is favored for the reasons listed above, yet the literature in this area does not appear to have been theoretically standardized. The basic concern with this form of modelling is whether or not a social norm can be specified. Such a norm has been deemed essential in order that the particular set of attitudes chosen can be used to typify the consumer situation. However, if one is to reduce the drive towards prediction in these models this concern becomes less demanding.

Several ingenuous techniques have been proposed for the establishment of these norms. J. F. Engel, D. T. Kollat, and R.D. Blackwell [24]

have applied a set of cultural variables to standardize these attitudes. Brody and Cunningham [7] have used a personality inventory to accomplish this task. In each of these cases the models propose to use the social norm as a basic element with which to weigh the responses of the participants. In each of these cases the set of responses which are justified by other studies appears to be the guide for weighing responses. This is a dangerous approach for the objective scientist to take. It assumes that the results of an investigation achieve some form of "truth" merely because they are replicated with similar results a great number of times. It further assumes that the assumptions used in the procedure are vindicated by time and not through constant introspection and revision. These types of models are inapplicable to this thesis as the very spirit of this task is to explore the attitudes behind consumer decisions and to understand the processes involved. The pre-specification of such a weighting pattern is contrary to this spirit.

To reject the pre-specification of a social norm is to invite a great deal of frustration in the formulation of a model. However, there appears to have been a general set of models in this area which have been presented. The model developed by J. L. Janis [36] and M. Rokeach [59] assumes that the existence of a social norm is less crucial than the investigation of the relationships amongst attitudes. In this model it is assumed that whatever the attitude, its basic components will have been well defined by the socialization of the respondents. In this model it is no longer a concern as to whether information is weighed less than concerns for safety in the motivation of consumer behavior. Rather it is assumed that all respondents understand what is meant by these comments in a relatively common fashion. Therefore the weights

which may be appropriate will be revealed in the responses themselves. This model closely parallels the social field model as developed by Kurt Lewin [42]. In social field theory the target of any potential action, its goal, is evaluated by each individual and he must determine a pattern of activity which will reach that goal. At any point in time it is to be expected that there will exist a number of goals which may require action. These other goals may compete or reinforce each other. As these goals interact tensions will be generated. The activity which is chosen is assumed to reduce the greatest amount of tension at any particular point in time. This approach is closely related to the discussion of role theory already presented and also substantiates the lack of urgency in the specification of a set of response weights.

There are a number of problems associated with the application of this type of model. The first is that there may at any point in time be a vast multitude of goals and tensions which operate so as to influence a person's actions. The model is not practical if all possible attitudes are included. Secondly, there must be some method of synthesizing the particular method by which the expected action is actually manipulated. The action which is performed need not be the one which generated the greatest amount of tension. It is possible that several attitudes may generate an almost equivalent amount of tension. If they do then the situation may develop, where, if other tensions can be made to reinforce each other, they will in fact dominate. It is argued that in the application of this type of model the attitudes be allowed to interact totally.^{1/}

^{1/} Warren J. Bilkey [4:106] discovered that there was a considerable degree of interaction in a survey of attitudinal impacts on basic budgetary allocations.

Therefore, for the purposes of this thesis the multidimensional approach is favored, provided that there is a method for the permitted interaction of the attitudinal variables.

3. THE MODEL

In the specification of the model to be investigated in this thesis the preview of the literature has shown that not all of the contributions have been concerned with how the consumer actually formulates decisions. In fact the prevailing intention has been to influence rather than understand the consumer. In this regard it is suggested that a multidimensional approach is preferred. The review of the literature did not investigate, any models which proposed the linkage property of the role between interest and behavior. There is one such model which has been proposed by James McNeil and will be dealt with below. [46:8-10]

This model in its algebraic form is as follows:

$$Br = f[(Ar + Kr), Fsr, Rd, R1 \dots Rn] \dots\dots\dots 1.1$$

Where:

Br is the behavior revealed in the performance of role r;

Ar is the attitude towards role r;

Kr is the knowledge of role r;

FSR is the social force acting upon role r;

Rd is the dominant role; and

R1 ... Rn is the constellation of other
potentially feasible roles.

In its basic form this model attributes behavioral activity as the result of the interaction amongst various roles. It stipulates that roles are the basic product of the interaction between attitudes and knowledge.

In addition it recognizes the stipulation that social forces operate as a fundamental constraint on activity.

However, there are certain features of this model which must be examined. The first is the stipulation that the role, as a constellation of rights and duties, is the summation of attitudes and knowledge. It is implied that this cluster can be manipulated merely through the provision of new knowledge. However, this does not appear to be readily observable. If knowledge is to include experience, then this model includes an essential feedback mechanism. Experience is the resurrection of behavior which has returned to the role as a result of having performed the role in the past. In this regard if the role were specified as a function of previous attitudes and knowledge the result would be that experience as a part of knowledge would be self-reinforcing. In a similar fashion a strict multiple relationship would not be realistic either. If attitudes and knowledge were multiplical then we would not expect to find behavior which persisted in spite of knowledge which was known to the individual before the action was initiated. The mere existence of bigotry is sufficient to discount this factor.

Moreover, there is another objection to the specification of this relationship. It separates attitudes and knowledge into components of the role which may be an unwise partitioning. The position which is advocated here is that the sum of the parts of any whole may or may not be equivalent to the perception of the whole itself. In this regard a picture hanging on a wall may present a totally different concept to two different people. Moreover, we may all be able to ride bicycles but it is unlikely if any of us is constantly aware of the necessary balance ratios

involved in this activity. This process of blurring of attitudes and knowledge is known as the concept of gestalten which is the basis for social field theory. [Lewin (42:8-10)]. No generality need be lost if the relationship between attitudes and knowledge is unspecified and in fact if the two components are replaced by the general, although undefined, concept of attitudes alone.

Another objection which can be raised to this formulation is that the particular effect of other roles may be quite variable on any given activity. There are basically two classes of these ancillary roles. The first class includes those roles which are potentially useful in the performance of any given role. These roles include those which are only for the moment deemed inappropriate. They are termed latent roles. The second set of roles are those which are deemed totally irrelevant to the performance of any given activity. These are the passive roles. In the case of the consumer role it is unlikely, given the pattern of advertising appeals to all of our emotive forces, that any roles can be appropriately defined as either latent or passive. It is therefore unrealistic to separate these roles unless they can be demonstrably and unconditionally divorced from the process of consumer behavior. Moreover, if these roles are constantly in a state of flux it is useful only to the microeconomic process of prediction to specify the constituent parts of the overall process.

Further, if it is assumed that the investigation of the consumer role is the primary motivation for this study, then the consumer role will be the dominant role. The model then refined is of the following form:

$$Br = (Ar, Fsr) \dots \dots \dots 1.2$$

It is therefore the purpose of this thesis to investigate the components of Ar. In order to make this feasible it is necessary to eliminate the effects of Fsr by attempting to survey only those consumers who have a common concern with respect to the performance of the consumer role. Such common concern will be taken either as a membership in a type of consumer group as a co-operative or as a general association.

Therefore, the model will be analysed as an investigation of the components and their internal relationships as they influence the behaviour of the individual. It should be noted that what is attempted here is an aggregate assessment and therefore will be used to develop a general appreciation of the manner in which consumer decisions are formed. In order to apply this model to a set of data a procedure must be found which will maintain the integrity of the individual response. In this way the variation in responses will be closely related to the type of variation actually present amongst the respondents. However, before the procedure is discussed it is necessary to develop the unique positions of the attitudes which are to be investigated.

THE COMPONENTS OF THE CONSUMER ROLE

Theoretically there are an unlimited number of attitudes which could effect the performance of the consumer role. In the absence of any universally acceptable theory as to the nature of these components it is necessary to refer to a number of statements of the components of the consumer interest, role, or behavior. There is of course no guarantee that the set of components chosen for this analysis are complete.^{1/} Each

^{1/} There is no reason to suspect that the consumer role is composed of components at all. However, if the application of role theory is correct it will be possible to test the interdependence of these components. According to whether or not they "hand together" according to what we expect. If they do "cluster" or accumulate in a definite fashion then all that can be said is that they form a kernel or nucelus for the role.

set which will be presented has a certain degree of bias depending upon the position in which the statement of components was made. Notwithstanding these considerations, it is argued that whether these components are in fact complete depends upon the nature of the responses derived. Nevertheless, in the pages which follow an attempt will be made to compile a list of these components and submit them for analysis in later chapters according to the procedure to be described shortly.

In 1962 United States President John F. Kennedy made the following statement:

"Additional legislative and administrative action is required, however, if the federal government is to meet its responsibility to consumers in the exercise of their rights. These rights include: (1) the right to safety, (2) the right to be informed, (3) the right to choose, and (4) the right to be heard. [Buskirk and Rothe (9:62)]"

Implicit in this rights formulation is the political perspective. It is assumed that safety, information, choice and representation are the key to the elimination of consumer problems. The political process can be used to establish these rights either directly or indirectly. However, no mention is made of the characteristics of the products themselves. The price level and its stability as well as the quality of the goods and services are neglected. In addition the manner in which the products are marketed is not considered. Those marketing techniques of efficiency in production and distribution, the competitive nature of the marketing environment, and the availability of products may well be additional factors.

Another statement of the components of the consumer role can be found in the Report of the Royal Commission on Consumer Problems

and Inflation, commonly referred to as the Batten Report:

"...(the consumer interest) cannot be wholly separated from his interests in the growth of production and income.

Notwithstanding this there are distinct consumer interests. They involve his right to know, at least in general terms, how the markets with which he must deal operate; they involve his right to be assured that the technical characteristics of the markets with which he cannot be familiar do not go awry, especially in areas involving safety; they involve his right to be assured of honesty and fair dealing, and to have recourse when these are not forthcoming; they involve his right to fully understand the relevant alternatives before him; they involve his right to be heard on all issues. [Batten Report (57:9)] "

This statement extends the rights of the consumer to areas which involve fairness in the marketplace. Essentially this set of principles implies that some supervision be placed on the marketing operations in order to make these necessary assurances. It is doubtful that all consumers would be interested in the highly sophisticated marketing techniques that are used. Indeed much of this information would be meaningless to many. Rather it is implied that an overriding concept such as efficiency and the maintenance of competition and supply would be used in order to placate consumer problems arising in this area. In addition the Batten Report adds the concept of the right to recourse either directly or indirectly with respect to producers and retailers. This approach does not consider price elements or other product related attributes.

In 1972 a Charter of Consumer Rights was developed by the Canadian Consumer Council. This charter was organized in the form of a sequence

of consumer functions. The following rights were deemed to be "inseparable":

Before Purchasing

1. The right to purchase. Each consumer shall have reasonable access to the lawful goods and services of Canada.
2. The right to information. Each consumer shall be given an opportunity to obtain accurate facts that enable him or her to make informed decisions.

Purchasing

3. The right to fair value. Each consumer shall have the opportunity to buy desired goods and services at just prices.
4. The right to choose freely. No consumer may be unfairly pressured or unlawfully disadvantaged when buying goods and services.

After Purchasing

5. The right to safety. No goods and services may expose the user to unexpected hazards.
6. The right to redress. Each consumer shall receive prompt and full redress for any product or service that does not perform as explicitly or implicitly warranted. [Canadian Consumer Council (11:57)]

In this statement of the consumer rights, rights at the point of purchasing are added. These include the right to "fair value" which relates to the concepts of price and its stability. In addition the ability to "choose freely" implies that choices in the market place should be made as meaningful as possible to all consumers.

There is a considerable degree of overlap in these statements of the consumer interest. There are four basic elements which are included in each list either explicitly or implicitly which may serve to crystallize this overlap. They relate basically to the concepts of price, conditions of supply, product attributes, and communications. Each of these concepts includes several related questions which may well

stand as separable attitudinal positions.

With respect to price the consumer can be expected to be concerned with the level at which they are set. This level of prices will have a direct impact on the ability to budget expenditures. Concomitant with the level at which prices are set is the stability of those prices through time. This would in turn determine the degree of confidence which the consumer is able to place in the price of the products which he purchases and his ability to rely on them as a consistent budgetary item. It may also be assumed that the consumer is concerned that prices be set as efficiently as possible so as to reflect "fair value."

The complexity of the modern marketing system may well be beyond the grasp of many consumers. However, while this technical information may not be understood by all consumers, it is almost obvious that they will have some attitudes towards some of the concepts. Among those concepts which may be expected to generate consumer attitudes are the meaningfulness of the choices presented to the consumer, the nature of the competitive environment, the availability of the products for which a preference is held, and the degree of efficiency with which these products are produced and distributed.

The product attributes are those concepts with which the consumer may have the greatest degree of familiarity. The most basic considerations in this regard are the quality of the product and the safety with which the consumer may use the product. In addition the consumer will be concerned with the nutritional value of a food product.

A final element of which the consumer may be expected to hold attitudes is the communication process. These include the value and type of information which is presented to him, as well as his ability to gain redress by voicing grievances or to be represented either directly or indirectly in a public forum.

The following fourteen components were assessed as being attitude positions with respect to which most consumers might have a ready opinion. Therefore, it was decided that they would be utilized in order to test the role composition developed previously. The fourteen components are:

Price related attitudes:

1. Price level.
2. Price stability.
3. Pricing efficiency.

Supply related attitudes:

4. Meaningful choice.
5. Competitive environment.
6. Product availability.
7. Production efficiency.
8. Distribution efficiency.

Product related attitudes:

9. Quality.
10. Physical safety.
11. Nutritive value.

Communications related attitudes:

12. Information.
13. Ability to voice grievances.
14. Representation.

In the remaining section of this introductory chapter the major hypotheses with respect to the structure of this set of consumer role components will be described and the procedures used to assess these hypotheses will be

developed.

THE HYPOTHESES

The primary hypothesis of this thesis is that there exists a pattern of attitudinally based judgments which constitute the kernel of consumer role behavior. It is further hypothesized that this kernel is highly similar if not identical for all consumers.

The fourteen components developed above are hypothesized to be relevant to these attitudes. Moreover, it is hypothesized that the pattern of elements described above is concerned with levels of attitudes which relate to the biogenic, sociogenic, and public goals of each and every consumer. The biogenic needs include those considerations which are necessary for the maintenance of the physical life process. In essence they constitute the private or individual domain of the consumption role. The social wants include those consumption activities in which the consumer engages with others in order to maintain or better his socially determined consumption position. This constitutes the social domain of the role behavior. The public demands include those activities which are designed in order to improve the general well being of the consumer in general, not necessarily the individual consumer, and constitutes the public domain. It is argued that the pattern of role components cannot be isolated without the consideration of all three domains.

It is further hypothesized that social pressures operate on each consumer so as to condition the set of feasible activities in which

he may be involved. The more binding the economic pressures on budgeting the greater will be the importance of the private realm. As this pressure is relaxed the social and public domains will become more and more important and may even take precedence over the purely private needs. In spite of this disparity among groups of consumers it is hypothesized that the internal structure of these attitudinal components with respect to target positions or ideal points for consumption will be highly similar if not identical for all groups of consumers.

PROCEDURE

In order to test these hypotheses it was necessary to sample the attitudes of consumers directly. A mail survey was designed and distributed as a stratified random sample to consumers in the Winnipeg area in August, 1973. This survey requested that consumers answer a set of attitudinal questions which were related to each of the fourteen components. In addition the respondents were asked to rate and rank each of the components. A final section of the survey was concerned with basic economic, demographic, and consumption characteristics of the respondents.

The stratified sample was partitioned according to the degree of involvement in consumer organizations. The first stratum was composed of members of a food purchasing cooperative located in a low income area of the city. The second stratum was composed of members of the Consumers Association of Canada, which is primarily a clearing house for consumer information and from time to time presents a consumer

perspective on certain issues. The third stratum was composed of members of the Department of Agricultural Economics and Farm Management at the University of Manitoba.. This third stratum served as a pretest for the survey as well as a control group as no common involvement in the consumer movement could be isolated for this group. All questions related to consumption of food products.

The results were first assessed in terms of their validity and reliability as a measure of consumer attitudes. The responses were then assessed on a stratum by stratum basis in order to determine the extent of any differences in response patterns and the degree of correlation between the component related attitudes and the combined rating and ranking orderings. The data were then submitted to a technique of multidimensional scaling of individual differences in order to uncover any global pattern of components and to test the major hypotheses. This technique produced a rotation of the attitude responses and also produced a set of reference or ideal points for each group of consumers.

4. SUMMARY

In this introductory chapter the problems of consumers were discussed in terms of their essential paradoxical nature. It was shown that an approach to the problem would have to include considerations of the private, social, and public domains of consumer activity.

In the discussion of the literature it was found that an attempt to uncover the kernel or essential focal point of the consumer interest

had not been attempted previously. It was also suggested that a multi-dimensional approach which allowed for interaction to take place would be desirable. Applying the principles of role theory it was shown that a set of attitudinal positions could be used to uncover this kernel. The distinct components of the consumer role were deduced from various attempts to define the consumer interest. In order to make this approach manageable it was deemed necessary to arrive at an aggregate of consumer roles and then attempt to uncover the kernel of behavior.

Finally it was decided that in the absence of any integrated theory of the nature of attitudinal interaction a survey of consumer attitudes would be undertaken in order to test the basic hypotheses.

In the discussion which follows the preparation of the questionnaire and its validity and reliability will be discussed. The responses will then be analysed on a group by group basis. Finally the intensity of the rating and ranking operations of the fourteen components will be scaled and the hypotheses tested. The final chapter will be concerned with the implications of this study, suggestions for its applicability, and the avenues along which further research may proceed.

CHAPTER II

PREPARATION AND ASSESSMENT OF THE QUESTIONNAIRE

In this chapter the development and distribution of the questionnaire will be discussed. The appropriate tests for its validity and reliability will be developed and applied. Finally the group by group comparisons will be made in order to determine any attitudinal pattern differences among the groups and the attitudinal related questions will be compared to the intensity ratings on the set of fourteen components hypothesized in the introductory chapter.

1. THE CONSTRUCTION OF THE QUESTIONNAIRE

Methods of Attitude Sampling

There are basically two methods of sampling attitudes. They are direct and indirect questioning. The direct approach requires that each question be structured so as to eliminate any biases in interpretation or in the particular characteristics of the respondents. Stanley L. Payne [54:228-37] provides a list of one hundred questions which should be taken into account in order to verify the usefulness of each question asked. The responsibility of this screening falls on the hands of the interviewer or a panel of experts. It is assumed that those who monitor the question have sufficient insight in order to eliminate bias [Thurstone (69)]. This method is known as the direct magnitude technique. Although it is true that everyone is a consumer and therefore should be qualified to function as an expert, it was argued earlier that no one person was only a consumer.

Therefore, there is no reason to suspect that an expert analysis is to be preferred to a non-expert analysis.

While this method is perhaps the easiest to apply it has certain underlying hazards and can easily lead to superfluous conclusions. Daniel B. Suits refers to this method as generating a set of responses which become "man-who statistics" as in the colloquial expression: "I know a man who ..." [Lansing and Morgan(41:1)]. These statistics refer to only partial characteristics of individuals and lead directly to the development of conclusions based on similar responses without respect to the individuals who actually made them. It is the purpose of this thesis to assess attitudinal patterns of groups of individuals and therefore it is deemed necessary to avoid this potential danger. Therefore another method is chosen.

Another method of analysis is known as the technique of proximity rating. Under this approach the respondents are asked to judge the degree of similarity between two stated concepts such as "good" and "bad" as they relate to a specific question. Once individuals have completed the sorting task the responses are then analysed according to the assumed underlying continuum used to generate these responses. [Dawes (20:28-9)] There are a vast number of possible comparisons between concepts. As the number of questions expands the number of comparisons expands as well. However, the number of comparisons expands at a much greater rate due to the possibility of cross comparisons between different questions.

One method which has been developed to minimize the number of direct and indirect comparisons within each question is to use a scale known as a semantic differential. The concepts to be compared are classified as mutually exclusive evaluative properties of the question such as "important" and "unimportant." The respondent then checks an appropriate space to indicate his attitude. The input of the interviewer is in the structuring of the question and in insuring that the two polar positions are in fact totally opposite to each other.

There are several problems with this approach. The primary problem relates to the interpretation of the polar positions. The respondent may well use a different value structure and therefore provide a response which would indicate an attitude in complete contradiction to his position. More serious, however, is the problem that there is no true zero point specified in the scale for a respondent who has no attitude towards the question. This response is as valid as any other and provides information which cannot be neglected.

In order to escape the problem of finding a true zero point, Jarko Cerha [16] developed a scale within which the boxes or spaces were each assigned a value as if the question were actually measuring temperature. This modification is known as an "interest thermometer." The mid-point of the scale is assigned the value zero and categories to the right are given positive weighings. Categories to the left are given negative weighings and all categories are spaced equally. This approach cannot be used alone,

however. In the presence of a large number of questions, respondent fatigue may lead to patterned checking such as checking every third box or space. In a controlled survey, where constant supervision is possible, this can be monitored and accounted for. In an uncontrolled survey, where no supervision is possible, it is essential that other questions, to be answered by another technique, be posed related to the same general question area in order to modify any rote or pattern checking which may be present.

The technique of proximity rating is an indirect method. Another indirect method which attempts to eliminate the possibility of inconsistency is that of using interlocking questions. This approach is most often applied to the construction of a Guttman scale (Dawes [20:44-7]). This scale is constructed from a set of responses to a sequence of the logical possibilities for responses. The first question would have a total set of logical responses. The second question would have one fewer. This sequence of questions is then funnelled until only one answer is logically consistent. The test of the viability of this procedure is determined by the degree of adherence of the responses to the expected response structure. This technique requires a great deal of interviewer input and a large number of questions which must be answered in order. Again the order of response is only controllable on a personal interview basis.

One final method of measuring attitudes will be presented. This method is also indirect and is based on the unfolding of responses. This

technique requires the least amount of interviewer input and follows the following stipulation of Likert:

"Each statement should be of such a nature that persons with different points of view, so far as a particular attitude is concerned, will respond to it differently." [43:44]

This approach is very similar to the proximity rating technique. The respondents merely check an appropriate space. Opposite evaluations are placed at each end of the scale. These opposites are generated from the addition of a negating prefix to the opposite position. The spaces are assigned numbers in increasing or decreasing order which are usually integers. The internal spaces are then assigned descriptive titles which describe approximate concurrence with each of the polar positions. The mid-point is assigned a non-committal descriptor. The pattern of responses is then unfolded by means of first bending the scale at the point of the original response and then unfolding it to its original position.

This is demonstrated graphically by means of Figure 1. Here the number of possible responses to the question constitutes the horizontal axis. These responses are assigned the integer values, for example 1 through 5. The responses for three individuals: A, B, and C are positioned along this scale. The procedure is first to determine the ranking of the horizontal scale for each respondent. Hence if the scale is folded around the response of A the scale is ordered as follows: A2, A3=A1, A4, and A5. Similarly the folded axes for B and C are: B3, B2=B4, and B1=B5 and C4, C3=C5, C2, C1. The next step is to unfold the response ratings according

to the degree of rotation which was necessary to fold them. This results in a family of "J" curves: A1', A2', A3', A4', A5'; B1', B2', B3', B4', B5'; and C1', C2', C3', C4', C5'. These "J" curves are always right angled and centered at the response given by each individual. If the scale values are in fact valid indicators of the attitudes sampled, the distribution of responses will be clustered around the mid-point of the attitudinal scale. The "J" curves will in fact be "U" shaped. Therefore a test of the validity of the responses is found in the symmetry of the response distribution. If the responses are skewed left (indicating that a large number of respondents concur with individual A) the implication would be that a better scale would have a larger number of intervals between the mid-point and the left position. If the distribution were skewed right the opposite restructuring would be warranted.

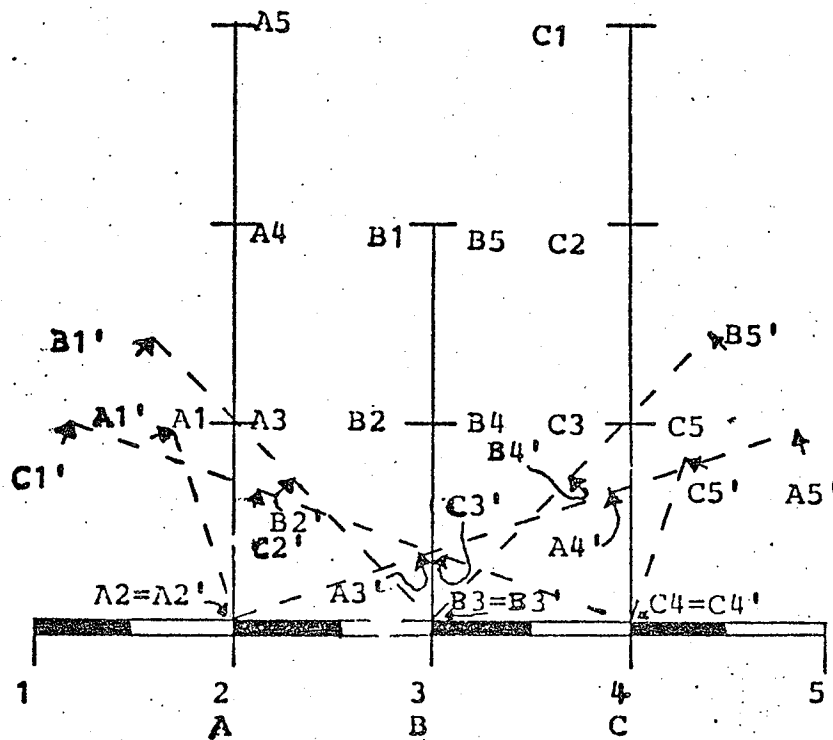
As a result of the lower amount of interviewer input required, the ease of assessment with respect to validity, and the fact that in this method each question can be interpreted independently and therefore does not rely on correct sequencing led to the adoption of this technique for the largest part of the questionnaire.

STRUCTURE AND ADMINISTRATION OF THE QUESTIONNAIRE

A questionnaire was designed, composed of three parts. The questionnaire and cover letter as each respondent received them are included as Appendix A. The first part comprised ninety-seven questions,

FIGURE 1

GRAPHICAL REPRESENTATION OF THE TECHNIQUE
OF ATTITUDE UNFOLDING



subsets of which were designed to sample attitudes with respect to each of the fourteen components of the consumer role. The questions in this section were all of the unfolding type and were based on a five point scale with interviewer labels attached to each space. The order of the scales in terms of increasing or decreasing order were distributed randomly across all questions. The questions relating to specific components were interspersed. It was hoped that this method would eliminate a large part of the rote checking which could have occurred.

The second part of the questionnaire was designed to evaluate the reactions of the respondents to the fourteen components. There were two parts to this section. The first part was composed of a set of questions based on the interest thermometer design. In this task the thermometer was structured on the basis of the importance of each of the components. The second task of this section required that the respondents then rank the fourteen components in terms of the priority of each component in their own consumption behaviour. It was expected that the interest thermometer questions would have a certain degree of rote checking. The ranking section was suspected of being too laborious for some respondents as well. Those whose responses were all of the same magnitude and those who did not answer the section on ranking would be eliminated. Finally the inversion of the importance scale, so that high assessments of importance would have low values and hence be conformable to the ranking results, enabled the derivation of an intensity rating. This intensity rating is the product of the two scales for each individual and hence represents the importance and priority which were attached to each component.

The third part of the questionnaire dealt with a set of characteristics indicating the economic, demographic, and consumption habit factors for each individual. This section was structured according to a set of scales. While this technique of sampling attributes such as income is not as accurate as merely reporting the magnitude of income it was felt that the harmony of question structure with the other parts of the

questionnaire would result in a much greater degree of completion. Moreover, the interval scaling was suspected of further substantiating the promise of anonymity.

Perhaps the best method of administering a questionnaire of this type would be to conduct interviews in a controlled setting. This type of interview would ensure that the questions were answered in the order of presentation, that the degree of attention paid to each question by each respondent could be monitored, and that only one person answered the questions rather than a group of people. However, this method of administration is exceedingly costly. In addition, because of the large number of respondents which would be necessary to conduct a statistically valid sample, there is a tendency to introduce interviewer biases directly. Alternatively, a mail survey is less expensive to conduct, eliminates interviewer bias except in the construction of the questions, allows the informant to work at his own pace, and as a whole can be more reliable. (Allt (2:195))

The order of question response is a serious consideration. In a mail survey this cannot be guaranteed. However, with the use of the unfolding technique and the partitioning of the questionnaire into several parts this problem can be minimized. In several of the questions an introductory sentence or paragraph was used in order to break some of the monotony which would arise from such a lengthy questionnaire.

The second major consideration was the identity of the respondent.

In many surveys which attempt to establish correlations between attitudes and individual characteristics this is an important area of invalidity. With respect to the consumer role, however, it was felt that even if more than one person answered the questions this would represent a cross-section of the family attitude structure. Only one questionnaire was distributed to each family and as such even a composite effort would be acceptable.

The appearance of the questionnaire was established so as to look as unlike an income tax form as possible. It was also advocated that the respondent answer the questions as quickly as possible. This instruction was considered to be applicable to the consumer role, as many decisions are centered in a supermarket where displays are geared towards instantaneous response by the consumer. One of the by-products of the length of the questionnaire may well have been that the respondents answered the questions quickly in order to complete the task as quickly as possible. [Allt (2:303-4)]

2. ASSESSMENT OF THE RESULTS OF THE QUESTIONNAIRE

Validity and Reliability

A questionnaire will produce valid responses if it does in fact measure the true attitudes of the respondents. From the previous discussion the following three conditions must be satisfied:

- a) the possibilities for rote responses such as checking the same value for each question

must be eliminated or at least minimized;

- b) there must be a true zero position which the non-committed respondent may choose and
- c) the interval spacings must correspond to the gradations of attitude possessed by the respondents.

The random ordering of questions and scalings will operate to nullify the effects of rote responses. The choice of question method will operate to reduce the possibility that a non-committed respondent will neglect the question. The symmetry of the distribution of the responses can be used to test the validity of the interval spacings.

However, it is also necessary that the questionnaire be reliable to the extent that a further administration of the questionnaire would produce similar results. Because the mail survey approach can be readily replicated it is generally considered to be more reliable. However, the design of the sample will have a large impact on the statistical reliability of the procedure.

For this survey, the technique of stratified random sampling was used. The purpose of applying this method was to eliminate intra-strata variation and contain as much variation as possible within the separate groups. It was assumed that attitudes towards the consumer role would be affected by the reactions of peers. The choice of strata on the basis of group affiliation further imbedded this assertion. In order to assess the reliability of this set of responses the sampling error of the mean was constructed. The larger the sampling error of the mean the less likely is the generation of a similar set of results from a re-administration

of the survey. The effect of the sampling error on the overall reliability is channelled through an assessment of the efficiency of the design. The design effect is computed as the ratio of the variance of the mean under the technique chosen to the variance of the mean that would have arisen from a simple random sample of equal size. The lower the value of the design effect, for samples which are approximately normally distributed, the greater is the efficiency of the technique chosen. [Lansing and Morgan (41:87)] The definitions and relationships between the tests of symmetry, the sampling error, and the design effect are presented in Appendix B.

In order that the sample can be accepted as a realistic assessment of the attitudes of the respondents, both conditions of validity and reliability must be met.

The questions of reliability and validity hinge upon the degree of compliance between the sample and the total population. As it was the purpose of this thesis to investigate components of the consumer interest, it was thought desirable to include within the sample scope who had somehow marked themselves off from the rest of society as having a consumer interest of sorts. This can provide an indirect source of bias in developing general conclusions for those sampled have already declared themselves to be non-normal by virtue of their membership in consumer groups. However, because role theory assumes that the boundary of any role is not rigid but constantly in a state of flux, it is a direct assumption that the components will be heightened amongst these groups. Consequently, it is assured that the role, if it was to somehow be removed from these individuals would be found to be best defined, and hence most applicable as a model for the assessment of

other individual roles, when they are given the greatest degree of attention by those other individuals.

Consequently the relationship between the consumer role found here and the population, is based on the abnormality of these individuals and presents a picture of how others may evaluate any given situation. Further if the dual paradoxes described earlier are true, then these relationships are likely to be noticeable only in the truly serious case.

The Performance of the Questionnaire

The first stratum of the sampling design was the membership of the Winnipeg Buyers Club. One hundred members from a total membership of 259 were chosen. Of these, 23 questionnaires were returned and deemed useful for the purposes of this study. The second stratum was composed of members of the Consumers Association of Canada. One hundred members from the Manitoba registration of 3,000 were chosen. Of this group 61 valid questionnaires were returned. The final sample was used as a pretest for the survey and a control group. This stratum was composed of students (graduate and undergraduate) and staff (academic and secretarial) of the Department of Agricultural Economics and Farm Management at the University of Manitoba. A total of 84 persons were included in this stratum. Of this group 25 questionnaires were distributed to individuals chosen at random.

The questionnaires were mailed to the Winnipeg Buyers Club members and to the members of the Consumers Association of Canada. The Pretest/Control sample received the questionnaires directly from

the principal researcher. In all cases the coverletter was included and all questionnaires were identical.

The Winnipeg Buyers Club provided a membership list from which the sample was chosen according to a set of random numbers. The same process was used in the selection of the respondents for the Pretest/Control sample. For the Consumers Association of Canada a set of random numbers was sent to the Winnipeg organization which then applied the set of numbers to their own membership. This latter operation was necessary because of the policy of this organization not to release its membership files. In all cases the completed questionnaires were returned by mail in the enclosed stamped and self-addressed envelope.

The relevant statistics which were used in order to assess the validity and reliability of the questionnaire are presented in Appendix C. Appendix C.1 presents the number of valid responses, the mean, variance, skewness, sampling error of the mean, and the design effect on the mean for each of the questions contained in the survey for all of the samples combined. The significance of the skewness coefficient is determined by applying a theoretical distribution to the observed statistics according to the fashion described by Snedocor and Cochran. [65:552] The number of valid responses, mean, mode, variance, and skewness for each question as responded to by members of the Winnipeg Buyers Club, the Consumers Association of Canada, and by the Pretest/Control groups are presented as Appendixes C.2, C.3, and C.4 respectively.

As a direct result of the method of scaling the attitudinal questions of the first part of the questionnaire, each scale is a

continuous gradient of attitudinal responses. With respect to the second set of questions, each scale is continuous only in the average for the group. This is due to the fact that the rating scale is continuous by construction but the ranking task necessarily requires that the respondent utilize a set of priorities which are mutually exclusive. Under the assumption that the social pressures generate a similar set of constraints for each group the continuity property is only valid in the average. The third part of the questionnaire is composed of magnitude scales which are not continuous.

The design effect statistics indicate that the partitioning of the sample into the three categories was efficient in capturing the variation within the sample specific responses. The overall average design effect was .0735 with a variance within this statistic of .0069. In general this statistic revealed a low value and indicated an acceptable degree of efficiency in terms of the sample design. No theoretical distribution of this statistic has been developed through which to assess statistical significance. However, the concomitantly low values for the sampling error of the mean indicate that the partitioning did in fact capture the variance within the sample responses and not between groups. The average value of the sampling error was .0950 and in no case was the sampling error greater than five percent of the mean. It is therefore concluded that the sample was reliable and comparable results would be obtained from a re-administration of the questionnaire.

The assessment of the validity of the questionnaire is based on the skewness of the response distributions. In the discussion which follows the validity of the response will be assessed for all

samples and the total sample on a section by section basis.

For the total sample the first ninety-seven questions were largely normally distributed. None of the responses distributions were indicative of ninety-eight percent confidence that the distribution was skewed. However, sixteen questions were skewed significantly at the ninety percent level. (see Appendix C.1)

For the Winnipeg Buyers Club sample 32 questions were skewed with 18 significant at the 98% level and 14 skewed at the 90% level. (see Appendix C.2) The Consumers Association sample had 49 significant distributions with 32 at the 98% level and 17 at the 90% level. (see Appendix C.3) At the 90% and 98% level of confidence, the Pretest/Control sample had 7 and 20 significantly skewed response distributions respectively. The total number of significant statistics for this sample was the second lowest at 27. (See Appendix C.4) In spite of the rather large number of significant distributions the total sample was not adversely affected.

Of those questions which had significant distributions at both levels of confidence there was a tendency for the number of negative and positive coefficients to be approximately equal in magnitude for the Consumers Association and the Pretest/Control groups. The tendency for the Winnipeg Buyers Club was to have a preponderance of negative skewness coefficients.

This would indicate that within samples the overall spanning of the relevant attitudes was balanced. Moreover, the particular questions which were significant in one group were significant to the

opposite extreme for another. In effect the validity with respect to the total sample was compensated by validity counter-effects within the various samples.

It will also be observed that the majority of the skewed distributions were found with respect to price questions. There may well have been an exogenous pressure causing respondents to overreact on price attitudes as a result of the public debate over pricing which was prevalent at the time this survey was taken. On balance:

- a) the fact that for the overall sample there was no distribution significant at the 98% level of confidence;
- b) there appears to be a cross-sample compensation for significant distributions; and
- c) the presence of an exogenous influence which may have generated a certain degree of over-reaction

led to the conclusion that the sample was relatively valid in sampling the attitudes of consumers.

With respect to the second section of the questionnaire; that dealing with the rating and ranking task, the responses are almost all skewed to some degree. Of the 28 questions in this section the number of distributions significant at both levels of confidence were 25, 16, 23, and 10 in the order of the samples as presented in the various parts of Appendix C. The danger that the rating scale would lead to rote responses and hence tend to generate invalid distributions is substantiated by these results. In general the pattern of significance indicated that these distributions were skewed towards the modal values which for all

samples except the Pretest/Control, were found around the upper range of the scale. As well, the relatively small variance for these questions indicates that the rote pattern was present. The ranking questions were skewed as well. These were largely skewed in the positive direction.

In the discussion of the type of data which would be useful in an assessment of the parameters of the consumer role it was argued that the importance ratings and the priority rankings alone would not be sufficient. In view of the apparent invalidity of the responses, a modified set of respondent indicators was required. The intensity of judgments as earlier proposed would require that a composite of the importance and priority scalings be constructed. This statistic was constructed by inverting the rating scale so as to make it conformable to the ranking scale and computing the product between the two scales. This new intensity scale would have 140 gradients as a possible domain. However, because of the pattern of rote responses to the rating task the new scale would be concentrated in the low values of the range. The technique requires that only complete questionnaires be used in order to harmonize this scaling. Therefore the questionnaires which provided a complete response set to both question tasks of the second part were used. This resulted in a sample size of 84 with 15, 55, and 24 representatives from the respective samples.

In view of the apparent compensating trends in validity among samples it would appear to be appropriate to construct such a scale modification on a sample basis. However, if (a) the patterns of attitudinal responses within samples are similar and, (b) the correlation coefficients between the attitudinal scales and the manufactured scale

for the total sample are also similar, then the use of a scale which applies the aggregate rating and ranking products would be equally valid as an assessment of the intensity ratings of each group. The conditions of response patterns and correlation will be investigated in the following section of this chapter.

The mean, variance, and skewness of the intensity scalings are presented in Table I. It will be noted that none of these distributions are skewed and hence all are valid with respect to the survey.

The questions contained in the third part of the survey were related to various demographic, economic, and consumption characteristics of the respondents. The skewness coefficients do provide some information about the structure of the survey. These structural features relate to the ability of the questions to provide an appropriate category for each respondent.

With the exception of the Consumers Association sample there was a positive skewness for the question relating to the age of the respondent. The gradients on this scale were in decades. The significance of this coefficient implies that a smaller gradient range would have been appropriate. With respect to the number of family members earning an income there was a positive skewness in the total sample and for the Consumers Association which would indicate a smaller range of gradients would have permitted the reporting of part time income earners, in effect as a portion of a person. The questions relating to income level and especially to savings and investment were also skewed. In all cases an expanded scale would have been more desirable. The education question

TABLE I
DESCRIPTIVE STATISTICS OF THE MODIFIED
INTENSITY SCALINGS

COMPONENT	MEAN	VARIANCE	SKEWNESS
Price Level	7.5688	12.3651	0.0460
Meaningful Choice	13.1376	12.1261	0.0113
Price Stability	20.9565	23.0936	-0.0847
Competitive Environment	23.3394	26.3903	0.0508
Product Availability	11.9266	10.3965	0.1853
Production Efficiency	19.3945	17.9206	-0.0338
Distribution Efficiency	19.8624	16.4410	-0.0084
Pricing Efficiency	13.8807	13.6821	0.0644
Nutritive Value	9.1468	13.2160	-0.0646
Physical Safety	10.6514	12.8980	-0.0270
Information	16.9450	14.3481	-0.0038
Ability to Voice Grievances	19.5138	21.3921	0.0707
Quality	4.5138	6.2429	-0.0779
Representation	24.4220	21.3790	0.0665

might have also been reworked in order to allow for a more detailed set of responses in any further administration of this type of survey.

These skewness conditions are the result of the attempt to make the three sections of the questionnaire conformable. It was also considered advisable to use a category arrangement in order to support the promise of anonymity.

There were also significant distributions for several binary questions such as those which related to car ownership. These questions would indicate that, on the basis of these responses, the samples were not normal or typical. However, in the absence of any established set of values which would generate a comparative norm, no modifying assumptions can be made.

There was yet a third type of question in this section which was similar to the scalings used in the other sections of the questionnaire. In this question type the respondent was asked to check his compliance with a question. It is interesting to note that all respondent groups indicated that their assessment of income and cost of living changes would have been better answered with a larger scale. In addition a scale which would permit a greater degree of response between the labels of "seldom" and "never" with the respect to the use of a budget would have been preferred.

In general the significant skewness of the responses to the third section of the questionnaire present considerations which would be valuable in an extension of this study. The value of the responses to this section is to assess the nature of group differences. As such it is not affected by the skewness considerations.

In this section the overall performance of the questionnaire was found to be both reliable and valid. However, the assertion was also made that certain invalidities did occur in the rating and ranking section. In order to remove these problems a modified scale of intensities was constructed in order to obtain a valid scaling from which to unfold the structure of the components of the consumer role. In the following section the samples will be compared in terms of the pattern of attitude responses from the first part of the questionnaire and their correlation to the intensity scalings. These conditions being fulfilled the intensity scalings will be analysed.

3. THE PATTERN OF ATTITUDINAL RESPONSES

In the design of the survey the attitudinal questions were set so as to relate to specific components. The attitudinal questions which were deemed relevant to each component are presented in Table II. It will be noted that the component of price stability was not directly related to any particular question or series of questions. Rather the attitudes with respect to pricing were sampled in three subsets of questions relating to present, future, and past price perceptions for the general food category and twelved major product groups. The descriptive statistics with respect to the scaling of the average of these judgments through time is presented for each sample and the total sample as Appendix D. It will be noted that this scale is neither inefficient nor skewed and hence is both reliable and valid.

It should be noted that these scales refer to the attitudes

which the respondents revealed towards each particular situation. Hence the correct interpretation of the means of these questions would be as indicators of trends or tendencies. Consequently, if there is any reason to believe that the attitudes towards a particular concept are the product of a similar motivation, then the comparison of these tendencies across related questions would indicate a pattern of judgment inclinations on behalf of the individual or group of individuals. It is the purpose of this section to investigate the inter-sample differences in this pattern.

In order to compare the differences in the pattern of responses it was necessary to compute the rank order correlation coefficients [Hokl (35:176)]. This technique was used because simple comparisons on the basis of a t-test would in all cases indicate a significant statistic due to the efficiency of the sample design in capturing variation within samples. Moreover, the questions were designed to relate to the same underlying attitudinal continuum and hence the ranking along this continuum would indicate any discrepancies in the attitudes towards each of the components. Cross comparisons are appropriate because all of the questions were structured on a similar five-point gradient scale and all were shown to be valid and reliable.

The attitudinal patterns will be dealt with in relation to the general categories of components and not in the order in which they were asked.

Price Related Components

As described in the previous section the price related components were assessed in terms of the attitudes towards general price levels and the price levels of twelve basic food groups. The linear average of these attitudes was used in order to assess the attitudes towards price stability. There was only one question which related to pricing efficiency.

Price Level

The rank order correlation coefficients for the attitudes relating to current price level are presented in Table III. The mean values of the responses were arranged in diminishing magnitude. In all cases the null hypothesis that the orderings were based on a different set of attitudes was rejected at the 98% level of confidence. Within this structure the general results indicated that all consumer groups felt that meat products were the most "over-priced", while eggs and milk were "under-priced." While all groups are highly correlated with the total sample results, the Winnipeg Buyers Club sample is the least correlated.

TABLE II

QUESTION NUMBERS OF ATTITUDINAL RESPONSES
RELATED TO THE COMPONENTS OF THE CONSUMER
ROLE

COMPONENT	QUESTION NUMBERS OF RELATED ATTITUDINAL RESPONSES
Price Level	1,2,3,4,5,6,7,8,9,10,11,12,13
Meaningful Choice	41,46,72,73,74,75,83
Price Stability*	(1,14,27), (2,15,28), (3,16,29), (4,17,30), (5,18,31), (6,19,32), (7,20,33), (8,21,34), (9,22,35), (10,23,36), (11,24,37), (12,25,38), (13,26,39)
Competitive Environment	76,77,78,84,85,86,87,88
Product Availability	40,42
Production Efficiency	79,81
Distribution Efficiency	80
Pricing Efficiency	82
Nutritive Value	43,45
Physical Safety	44,66
Information	47,48,49,50,51,52,53,54,55,56,57,58,59,60, 61,42,63,64,65
Ability to Voice Grievances	67,68,69,70,71
Quality	89,90,91
Representation	92,93,94,95,96,97

* Denotes linear average of Present, Future, and Past price judgments.
See Appendix D.

TABLE III

RANK ORDER CORRELATION COEFFICIENTS FOR
ATTITUDES RELATED TO THE INTENSITY SCALING
OF PRICE LEVEL JUDGMENTS BY SAMPLE

SAMPLE	WINNIPEG BUYERS CLUB	CONSUMERS ASSOCIATION	PRETEST/ CONTROL	TOTAL
Winnipeg Buyers Club	1.00000	0.86538**	0.88186**	0.92307**
Consumers Association		1.00000	0.87362**	0.96703**
Pretest/ Control			1.00000	0.93406**
Total				1.00000

Price Stability

The linear averages of present, future, and past price judgments developed in Appendix D were ranked according to the magnitude of the difference between the mean value and the mid-point of the scale. It was assumed that if the attitudes were indicative of stability, they would yield a time based average very close to the mid-point. The rank order coefficients are presented in Table IV.

TABLE IV

RANK ORDER CORRELATION COEFFICIENTS FOR
ATTITUDES RELATED TO THE INTENSITY SCALING
OF PRICE STABILITY JUDGMENTS BY SAMPLE

SAMPLE	WINNIPEG BUYERS CLUB	CONSUMERS ASSOCIATION	PRETEST/ CONTROL	TOTAL
Winnipeg Buyers Club	1.00000	0.28571	0.71426**	0.66620**
Consumers Association		1.00000	0.73077**	0.84752**
Pretest/ Control			1.00000	0.95467**
Total				1.00000

With the exception of the coefficient between the Winnipeg Buyers Club and the Consumers Association Sample, all coefficients reject the hypothesis that the distributions were based on different criteria. However, the coefficient between these two samples and the total survey results were significant. The Winnipeg Buyers Club sample generally tended to interpret a greater degree of instability in prices than the other samples. This difference in response structure may have been due to the relatively disadvantaged position of the members of this sample, who might be expected to overestimate the degree of instability in prices and thereby register their displeasure with current market situations. However, the pattern of responses is significantly correlated with the pattern of responses from the total sample and lends support to the use of the total sample intensity scalings.

Pricing Efficiency

Only one question was asked with respect to this component. In all samples the mean response was centered at the "adequate" to "inefficient" response position. With the exception of the Winnipeg Buyers Club sample the modal value of the responses was at the "inefficient" position. Although only one question was asked, the similarity in the responses would lend support to the conclusion that no appreciable differences in the pattern of attitudes was present for this component.

Supply Related Components

The components which were hypothesized as part of this category were: Meaningful Choice, Competitive Environment, Product Availability, Production Efficiency, and Distribution Efficiency.

Meaningful Choice

Seven questions were presented to the respondents in order to determine their reactions to the choices which they were able to make in the performance of the consumer role.

It was felt that the choices made would be meaningful if the consumer was able to scrutinize and select the product in order to assess its possible value (question 41). In the market a larger number of products are being pre-packaged, and it was suspected that selection and scrutiny were becoming less feasible. It is interesting to note that the mean values of the responses for all groups indicated that their attitudes towards this situation did not reflect any reaction to the proliferation of packaging.

Another question which was asked with respect to the prevalence of packaging was the ease with which products could be compared in order to determine the best or lowest price (question 83). With the often confusing sizes of packages it was felt that the consumer would be unable to compare products as easily as would be desirable. The mean responses for all samples appears to reflect the opinion that this process is slightly difficult.

The introduction of new products was also considered to be relevant to the meaningfulness of choice. In order to assess this feature of behaviour four questions relating to the frequency of discovering new products, the prevalence of experimental purchasing, the frequency of these new products being new brands, and the frequency with which they were actually new products were asked (questions 72 - 75). It was suspected that the responses would indicate that new products were discovered quite frequently, that they would usually be purchased to try them out, and that they would usually be new brands and not new products. The responses, however, indicated that the frequency of new product discovery was rare, that many did purchase them on an experimental basis, and that they were more often entirely new products rather than new brands. This pattern was fairly uniform for all samples. It would appear that consumers derive some satisfaction from discovering new articles, and to the extent that this survey is realistic tend to support product innovations.

A final question with respect to the choice process was designed to indicate the effect of a "bargain" on purchasing (question 46). The responses to this question indicated that "bargain" purchasing was very

prevalent for all samples, as might be expected in periods of rising prices.

All of the questions in this section were scaled with high integer values for infrequent behaviour. The questions were arranged in diminishing order of the mean and the correlations computed as presented in Table V.

In all cases the correlations were highly significant and in fact the Pretest/Control and Consumers Association samples were perfectly correlated. Again the Winnipeg Buyers Club sample is the least correlated group.

TABLE V

RANK ORDER CORRELATION COEFFICIENTS FOR
ATTITUDES RELATED TO THE INTENSITY SCALING
OF MEANINGFUL CHOICE JUDGMENTS BY SAMPLE

SAMPLE	WINNIPEG BUYERS CLUB	CONSUMERS ASSOCIATION	PRETEST/ CONTROL	TOTAL
Winnipeg Buyers Club	1.00000	0.80357**	0.80357**	0.85714**
Consumers Association		1.00000	1.00000**	0.96428**
Pretest/ Control			1.00000	0.96428**
Total				1.00000

Competitive Environment

Eight questions were posed in relation to this component. The nature of the competitive environment was deemed to be composed of two factors. The degree to which the consumer was able to make use of the supermarket system in terms of the number of stores at which he shopped, the ease with which these stores could be compared, and the ease of commuting to the different stores was the first area (questions 76,77,78). In addition it was felt that the attitude towards competition would be based on the impression held with respect to the profits earned by retailers, wholesalers and distributors, manufacturers, farmers, and credit agencies (questions 84 - 88).

It was felt that the consumer who was able to shop at a number of stores and commute between them easily would be better able to make comparisons among stores. This was borne out by this survey and this tendency appeared to be the same for all samples. As long as the supermarket system of food distribution continues to display the tendency to locate in suburban shopping centres, often very close to competitors, it appears that consumers will be better able to acknowledge the degree of competition present.

With respect to the level of profits earned by the various people involved in the food system, it was felt that the public debate over agricultural marketing boards and other price support programs might create the impression that farm profits were too high. This was not the case, however, and the general responses indicated that consumers felt that farm profits were only "low" to "moderate." In all samples, the sector which was "blamed" for having high profits was the credit industry.

This result is startling. It would be too much to assume that this result indicates a belief on the part of consumers that credit activity provides an impact on inflation and therefore influences food prices. It may well be the case that the respondents were merely indicating a general state of confusion as to whom to "blame" for food prices. Seeing the credit agency category in the survey may have led to a large response merely because the relationship between this sector and food prices was most obscure. There are of course a number of other possible explanations but all lie beyond the scope of this thesis.

The perception of profits for retailers, wholesalers and distributors, and manufacturers was in the "high" range for all samples although the Pretest/Control sample indicated a more "moderate" perception.

In the preparation of these scales the direction was negative to positive for all questions except the ease of commuting. Because of the technique of construction, this scale was simply inverted to make it conformable. The correlation coefficients are presented in Table VI.

TABLE VI

RANK ORDER CORRELATION COEFFICIENTS FOR
ATTITUDES RELATED TO THE INTENSITY SCALING
OF COMPETITIVE ENVIRONMENT JUDGMENTS BY
SAMPLE

SAMPLE	WINNIPEG BUYERS CLUB	CONSUMERS ASSOCIATION	PRETEST/ CONTROL	TOTAL
Winnipeg Buyers Club	1.00000	0.95238**	0.87500**	0.90476**
Consumers Association		1.00000	9.84542**	0.97619**
Pretest/ Control			1.00000	0.97023**
Total				1.00000

The pattern of judgments is highly correlated in these questions. The major dissimilarity is found in the coefficient between the Winnipeg Buyers Club and the Pretest/Control samples. In general the Winnipeg Buyers Club sample tended to attribute the profits at a higher level than the other samples, while the Pretest/Control group revealed a lower assessment.

Product Availability

Only two questions were asked in relation to the availability of products: the consistency of the location of the same product in the same place in the same store, (question 40), and the ability of the consumer to get a product at another store if one store was out of

stock (question 42). It was felt that the standardized arrangement of supermarket shelves would lead to a high frequency of consistent product location. It was also felt that, inspite of this similarity in store organization, many consumers would not engage in going to another store in order to get any particular product. It was felt that this effort would be frustrating for many, as supermarket checkout lines are often long and slow moving. The responses indicated that consumers were aware of common arrangements of shelves and that they would in fact go to another store to get any particular product. It would appear that consumers are generally aware of the alternatives in securing any particular product. All responses were highly similar for each group and it is assumed that no differences existed in the manner in which they were formed.

Production Efficiency

With respect to the efficiency of production two questions were asked. These required the respondents to give their impression of the efficiency of the farm community (question 79), and the manufacturers (question 81). All samples reported that they thought both the farmer and manufacturer were efficient operators. In general the farm community was perceived to be slightly more efficient than the manufacturers. Again there were no apparent differences in the pattern of these responses among the samples.

Distribution Efficiency

During the period of this survey there was a rising tendency for shortages to occur in the marketplace. It was felt that consumers would react to this situation and place the "blame" on either the

producer or distributor activities. The question which was asked in relation to this question was a simple assessment of the overall efficiency of distribution (question 80). In all samples the mean response indicated that the distribution system was only slightly adequate and the Winnipeg Buyers Club sample was the one group which indicated the largest inefficiency rating. It would appear that exogenous influences may have generated a similar response structure for all groups.

Product Related Components

The three product specific components were Nutritive Value, Physical Safety, and Quality.

Nutritive Value

Two questions were asked with respect to the nutritive value of food products. The general interest in nutrition (question 43) and the general confidence in food products in terms of safety and health maintenance (question 45) were asked. It was felt that those consumers who had a definite interest in nutrition would have either a strong positive or negative reaction to the general nature of food performance. The results of the survey indicated that all samples revealed an interest in nutrition and that in general there was a high degree of confidence in the standards of food products. However, the Winnipeg Buyers Club sample was not as confident as the other groups in the performance of the foods which they consumed. This may have been due to the fact that lower income consumers may not have been able to consume as much of the more nutritious protein foods as they would have liked. The pattern of responses is similar, however.

Physical Safety

Two questions were asked about the safety of food consumption. The first question related to the general assessment of the packages and additives used for food products in terms of safety (question 44). The second question dealt with the frequency of the discovery of potential safety hazards in food products (question 66). It was felt that the greater the degree of confidence in the safety standards the less frequently the consumer would have discovered a safety hazard. The responses indicate that there was a tendency for at least some confidence that packaging and that food additives were well regulated. The general responses to the discovery of safety hazards indicated that they were relatively infrequent. The Winnipeg Buyers Club sample was the most sceptical of the samples in terms of both confidence and the discovery of safety hazards, although the pattern of response was the same for all samples.

Quality

There are many parameters which can enter into an assessment of quality. These range from the retailers criteria, which must relate to storability and ease of pricing, to the consumers criteria, which relate to the performance of the particular food product in terms of a wide number of recipes and preparations. In Canada most of the food products sold are subject to some grading system. It was hypothesized that the basic knowledge of grades, their importance to the consumer, and the prevalence of equating high price and high quality would be appropriate attitudinal references for this component (questions 89-91). It was hypothesized that the greater the degree of awareness of grading

the less likely the consumer would be to equate price as a measure of quality. All respondent groups indicated that while they were able to discriminate products on the basis of grades "half of the time" and that, although, grades were of some importance to them, they were still susceptible to interpret high price as a measure of high quality. This may well be a response to the retailing channels which place a premium on quality. There was no difference in the pattern of these responses across samples.

Communications Related Components

The communications related components, as hypothesized earlier, were Information, the Ability to Voice Grievances, and Representation.

Information

One of the major social developments of the post-war era has been the increased efficiency and use of communications. In fact it may be argued that communications have allowed for the development of the expanded market. The information impact on the consumer role performance can be categorized according to information influences arising from others, and responses to information sources arising from the respondents themselves.

The questions relating to information influences were structured so as to indicate the source of the major pressures towards consuming certain goods. It was assumed that the purchase influence would come from individuals within the family or social structure to which the consumer "belonged." Consequently four questions were asked in order to determine whether the major purchase influence was from the spouse, children, parents, or others (questions 47 - 50).

In all samples the respondents indicated that the major influence to purchase was from the spouse, with others and children less readily heeded. For all of these questions, all of the samples indicated that they were rarely influenced by their parents or friends.

The internal information response of the consumer was treated as the manner in which the consumer responded to various information settings. The questions were prepared in order to determine any differences in the manner of obtaining information which resulted in purchases. The most participatory of these are the conversations with friends and comparison shopping, which require that the consumer expend some effort in order to gather information. The non-participatory information settings which require that the consumer merely react to the information presented is found in point-of-sale displays and mass media advertising (questions 51-54). The general results indicated that comparison shopping was most frequently used although advertising accounted for another major information influence.

Advertising is a prevalent factor in modern lifestyles. It was also revealed to be important as a purchase response. In view of these results it was considered important to assess the consumers attitudes towards both the amount of advertising and the truth of those advertisements. Therefore ten questions relating to amount and truth of advertising were presented on the basis of advertising sources: television, radio, newspapers, mail, and magazines (questions 55-64).

For all samples the amount of advertising on television and through the mails was the most displeasing. For the Winnipeg Buyers Club the amount of advertising on the radio was the most discomforting.

In general the reaction was that there was an excessive amount of advertising. With respect to the truth of the advertisements the general response was very sceptical with the least truth value assigned to television and the greatest truth value attached to newspapers.

One final question was asked in which the respondents were asked to gauge the frequency with which they were fooled by advertising claims (question 65). There was a tendency for all samples to admit that they were fooled at least half of the time. The rank order correlation coefficients for this set of questions is presented in Table VII.

TABLE VII
RANK ORDER CORRELATION COEFFICIENTS FOR
ATTITUDES RELATED TO THE INTENSITY SCALING
OF INFORMATION JUDGMENTS BY SAMPLE

SAMPLE	WINNIPEG BUYERS CLUB	CONSUMERS ASSOCIATION	PRETEST/ CONTROL	TOTAL
Winnipeg Buyers Club	1.00000	0.61184**	0.48684**	0.70175**
Consumers Association		1.00000	0.91315**	0.98114**
Pretest/ Control			1.00000	0.90482**
Total				1.00000

All correlation coefficients are significant indicating a set of responses related to a common set of attitudes.

Ability to Voice Grievances

With respect to grievance procedures the frequency of complaint

and the nature of restitution through existing systems either to the retailer or the manufacturer were considered essential elements in this attitudinal spectrum (questions 67-70). In addition a question was asked about the attitudes of the employees with whom the aggrieved consumer would interact. It was felt that an indignant attitude would generate a more violent consumer attitude (question 71).

The results of this survey indicate that consumers generally have tended to complain to the retailer rather than the manufacturer and have generally received resitution. In addition all samples indicated that the attitude of the employees was usually polite. The rank order correlation coefficients for this set of questions is presented in Table VIII.

TABLE VIII
RANK ORDER CORRELATION COEFFICIENTS FOR
ATTITUDES RELATED TO THE INTENSITY SCALING
OF ABILITY TO VOICE GRIEVANCES JUDGMENTS
BY SAMPLE

SAMPLE	WINNIPEG BUYERS CLUB	CONSUMERS ASSOCIATION	PRETEST/ CONTROL	TOTAL
Winnipeg Buyers	1.00000	0.90000*	1.00000**	1.00000**
Consumers Association		1.00000	0.90000*	0.90000*
Pretest/ Control			1.00000	1.00000**
Total				1.00000

In this set of questions all correlations are significant although three of the comparisons are only significant at the 90% level of confidence. This subset of the attitudinal questions does not reveal any differences in the pattern of responses.

Representation

With respect to the representation component six questions were asked which were designed to assess the perceived degree of success that the consumers felt they had had in representing their interests to the national government, the provincial government, retailers, distributors, manufacturers, and farmers (questions 92-97). The general distribution of responses indicates that respondents felt that the national government and distributors were least mindful of consumer interests while farmers and manufacturers were the most mindful. The coefficients of correlation are presented in Table IX.

TABLE IX

RANK ORDER CORRELATION COEFFICIENTS FOR
ATTITUDES RELATED TO THE INTENSITY SCALING
OF REPRESENTATION JUDGMENTS BY SAMPLE

SAMPLE	WINNIPEG BUYERS CLUB	CONSUMERS ASSOCIATION	PRETEST/ CONTROL	TOTAL
Winnipeg Buyers Club	1.00000	0.54285	0.17142	0.60000
Consumers Association		1.00000	0.51428	0.82857*
Pretest/ Control			1.00000	0.74285
Total				1.00000

In this set of questions there is only a significant correlation between the Consumers Association and the overall sample. Both the Winnipeg Buyers Club and the Pretest/Control samples are not highly correlated with the total sample. However, the correlations are very close to significance and it is therefore assumed that the pattern of responses for the total sample are valid with respect to each sample.

Summary of attitude pattern comparisons

The foregoing analysis indicates that consumers from all groups of respondents displayed a similar "attitude" for questions relating to each of the hypothesized role components. This result may well have been expected. Indeed it may be one of the legacies of mass communications advertising that attitudes are in fact conditioned by the media. To enter into the discussion of these contentions is much beyond the scope of this thesis.

The results of this section lend support to the contention that the consumer role is influenced by consumer attitudes.^{1/} In addition the results indicate that any given consumer chosen at random would be expected to order a set of alternatives in the same fashion and reveal the same mid-point as any other consumer chosen at random from any grouping. This result lends support to but does not confirm that the consumer role is in fact common to all consumers in the same fashion. The pattern is similar, but it is the effect or correlation of this pattern with the evaluation judgments on the hypothesized components which must be tested.

This latter point may be elaborated upon by means of an example. Suppose that there are three attitude questions A, B, and C

^{1/} It is possible also to argue that consumer attitudes are influenced by the consumer role. This is of course true and the discussion is similar to whether or not supply determines demand or the other way around. This result merely indicates that there is a relationship present which was expected. Consumer role performance may well lead to attitude development, but if it does it must do so through the filters created by other roles and of course the environment.

which are suspected as being related to a role component X. Each question is posed on a five point scale with the larger values indicating satisfaction and the lower values revealing dissatisfaction. Two consumers then reveal their attitudes towards these questions. The first consumer ranks as follows: A:5, B:3, and C:1. The second consumer provides the following ranking: A:4, B:3, and C:2. Each consumer has revealed a ranking of A:B:C and each response set has a mean of 3. However, the first consumer has a widely divergent set of attitudes while the second is more or less uncommitted to revealing either a positive or negative reaction. This may affect the overall ranking of component X. The first consumer may give it a very low rating because of his widely ranging attitudes, while the second may rate X very highly because he is basically unsure about it.

It is essential, therefore, to investigate the relationship between these attitudes and the component rankings. If they are found to be highly similar then it will have been shown that the consumers, from all groups have an attitude structure which is:

- (a) similar in pattern,
- (b) centred around similar means, and
- (c) related in a similar fashion to the hypothesized components.

This is the task of the following section.

4. THE RELATIONSHIP BETWEEN THE INTENSITY SCALLINGS AND THE ATTITUDINAL RESPONSES

In order to assess the relationships between the attitude

questions and the component intensity scalings the simple correlation coefficient was used. In this context the correlations were used because it was only deemed necessary to indicate whether the respondents responded in a similar fashion, that is whether the attitude responses moved in accordance (positive correlation) or discordance (negative correlation) with the ratings of the hypothesized components for the reasons developed above. This task was a facilitating one, in order to meet the requirements for analysis of the component rankings. Further examination of how these questions interact in order to determine the rating is beyond the scope of this thesis.

The correlation coefficients between attitudinal responses and the intensity scale values are presented in Appendix E. The references for the price related components, the supply related components, the product related components, and the communications related components are Appendixes E.1, E.2, E.3, and E.4 respectively.

Price Level

Because of the manner in which the price questions were structured a higher value would indicate that prices were too high. The intensity scalings were ordered so that a low value would indicate a high degree of importance and priority for the component. Therefore a negative coefficient indicates that the high price served to relate to a higher priority for the price level component.

For all sample groups with the exception of the Pretest/Control

sample, the general price level question is highly correlated with the corresponding intensity scaling of the price level component. The sign of the coefficient is negative indicating that the higher the impression of the present price level, the greater the importance and priority which was placed on the price level component. The prices of pork, butter, bread, flour, and breakfast cereals were all negatively correlated with the intensity scaling for the Winnipeg Buyers Club sample. This would indicate that these products had a direct impact on the scaling of the price level component for the group. In all other samples the correlation coefficients were positive indicating that the relationship to the scaling value was not as direct.

Price Stability

As with the price level component the largest correlation coefficient was not the same for all of the samples. However, the general stability response was fairly large for all samples and was negative. The intensity scaling, therefore, decreased in magnitude and hence increased in importance as the average of present, future, and past price evaluations increased. For all samples the beef component was negatively correlated. For the Winnipeg Buyers Club the negative correlation coefficients were for flour, breakfast cereals, fruit and eggs. For the Consumers Association milk, bread and flour tended to contribute towards a greater intensity of the price stability component.

Cheese, breakfast cereals, and vegetables had negative coefficients within the Pretest/Control sample. Milk, butter, bread, flour and fruit displayed a reinforcing tendency of the intensity scalings for the total sample. In general the correlation between attitudes and the intensity scaling for the price stability component is indicative of a direct relationship and one in which the greater the perceived degree of instability, the greater the intensity of the component to the respondent.

Pricing Efficiency

The correlation between the single attitudinal question and the intensity scaling is relatively high for all samples. The greatest degree of correlation is found in the total sample and the lowest degree in the Pretest/Control group. In all cases the coefficient is positive indicating that the larger the value of the attitudinal response the larger the intensity scaling and the lesser its overall importance. This observation corresponds to the situation in which a higher opinion of the efficiency of pricing would make that consideration of less importance.

Meaningful Choice

No single correlation coefficient can be used as an indicator of that nature of the relationship for the meaningful choice scaling. The largest coefficient does not occur for the same question for all

samples or even for a majority of them. For the Winnipeg Buyers Club group the strongest relationship is between the frequency of discovering a new product and the intensity. The more infrequently the discovery the more important the component. For the Consumers Association the less frequent the opportunity to select the particular product purchased the greater was the component scaling. For the Pretest/Control and the total samples the largest correlations were found for experimental purchasing and the frequency of new product discovery respectively. The correlation coefficients indicate that this component became less crucial as the number of new products discovered decreased, as the possibilities for selection increased, and as the frequency of experimental purchasing decreased. All of those factors appear to substantiate the position that as the choices became less confused, more refined, and less adventuresome: the meaningfulness of the choices increased. This increase would have been revealed by placing this component on a lower importance position and at a higher valued priority position. Therefore, the intensity scaling would have had to be larger. Although no causal relationship is present, the attitudinal questions display this overall expected pattern of behavior.

Competitive Environment

The largest correlation coefficients within this set of questions are found for the questions relating to the number of stores shopped and the ease of store comparison and commuting. These coefficients are all

positive and reflect the position that the larger the number of stores shopped, the greater the ease of comparison, and the easier the commuting to these stores: the less intense the scaling of this component. With respect to the nature of the perceived profits no consistent pattern of signs can be found for all samples. However, for the total sample all of these questions had negative coefficients indicating that as the assessment of profits increased the intensity of the judgment increased. In this set of questions the expected pattern of behavior as discussed above is demonstrated.

Product Availability

The two questions relating to the product availability component both revealed negative correlation coefficients for all samples. The more frequent the consistent location and the possibility of getting any particular product at another store, the less intense the scale value attached to this component for all samples.

Production Efficiency

With respect to the two questions pertaining to the component of production efficiency, the expected pattern of response is revealed. The greater the degree of perceived efficiency on the part of both farmers and manufacturers, the less intense is the scale value. For the Winnipeg Buyers Club and Pretest/Control samples the relationship is

strongest for the evaluation of manufacturers' efficiency. For the Consumers Association it is farm efficiency which has the strongest effect. For the total sample the evaluations of both farm and manufacturer efficiency are approximately equal. In all cases there is a strong correlation relationship.

Distribution Efficiency

The correlation coefficients between the single question relating to distribution efficiency are all positive. Therefore the greater the degree of perceived efficiency in the distribution of food products the less important the overall scaling. The correlation coefficients are all fairly large with the strongest relationship found within the Winnipeg Buyers Club sample.

Nutritive Value

The correlation coefficients with respect to the component of nutritive value would be expected to reveal contrasting relationships. The greater the interest in nutrition the more important the intensity scaling would be expected to be. In contrast to this the greater the degree of general confidence in food, the less intense would scaling be expected to be. This contrast is revealed by the signs of the coefficients for all samples. With the exception of the Consumers Association sample the interest in nutrition question shows the strongest relationship. The

Consumers Association sample reveals a general confidence correlation which is almost as large. The expected pattern of relationships is supported by the data.

Physical Safety

The expected pattern of relationships for this set of questions was that the degree of confidence in safety standards would serve to lower the intensity of this component while the more frequent the discovery of safety hazards would tend to increase its intensity. This pattern is supported by all samples. The confidence in safety standards reveals the strongest relationship for all samples.

Quality

The intensity of the scaling of the quality component would be expected to increase as the knowledge of grades and their importance to the consumer decreased. All samples support this hypothesis. It would also be expected that the more frequently the consumer was willing to equate price and quality, the greater would be the value of the intensity scaling. This relationship holds for the Pretest/Control sample and the total survey but the Winnipeg Buyers Club and Consumers Association groups are almost indifferent with respect to this relationship.

Information

The patterns of relationship for the information component are

not as well defined. The general pattern of responses indicates that the intensity of the scalings increased as the perception of the amount and lack of truth of advertising in most of the media increased. This was as expected. However, the samples do not portray the same patterns of relationships; as the Pretest/Control sample displays a set of positive coefficients with respect to the amount of advertisements in all media. All samples display a reinforcing relationship for certain media on the basis of the perception of truth. In addition the expected pattern that the more frequent the deception caused by advertisements the greater would be the intensity of the scaling is only marginally supported by the Consumers Association and Pretest/Control samples. In general the information component scaling is not uniformly supported by the data for all samples.

This situation may have arisen due to a number of factors. One possible explanation is that the questions did not cover a sufficient range of attitudes relevant to consumer information. This would lead to a lack of correlation in responses. However, in the general sense these questions related to information responses and acceptance and did take account of the major media involved in mass communications. It may have been the case that the samples responded to different information sources in such a fashion as to destroy any common ground for comparison. One of the essential elements in information acceptance is the ability to spend time and effort receiving communications. Thus the lower income groups would not have as ready access to magazines as the other groups. In addition it is unlikely that much mail advertising would be directed to lower income groups for luxury class goods. These factors may well

have confounded the relationships present.

The one redeeming consideration which arises from these results is that the expected relationships between attitudes toward the truth value and amount of advertising and the intensity scaling of this component are present for the total sample. Therefore, this relationship has performed as expected and serves to support, although only in a crude sense, the attitudinal basis of these judgments.

Ability to Voice Grievances

The expected pattern of responses to this set of attitudinal questions would be that the greater the frequency of complaints either to the retailer or the manufacturer the more intense would be the scaling. Contrasting this pattern, the more frequently that restitution was seen to take place, the less intense would be the scaling. It was also felt that the degree of indignation or rudeness displayed by employees would serve to increase the intensity with which this component was evaluated. The expected signs are positive for the complaint questions, negative for the restitution questions, and negative for the attitude of employees question. This pattern is supported by the data. The only exception to be found is in the attitude of employees question wherein the Winnipeg Buyers Club and Pretest/Control samples revealed positive coefficients.

Representation

With respect to the component relating to representation; the expected pattern of responses would be that the less frequently the

consumer felt that his interests were being heeded the greater would be the importance attached to the component. This relationship requires that a negative correlation coefficient be present. All samples supported the presence of this pattern.

Summary of Attitude - Intensity Relationships

The attitude relationships with respect to the intensity scalings are generally highly correlated and tend to confirm expectations. This holds for all components with the exception of the information judgment.

With respect to information at least a subset of the questions: those relating to truth and amount of advertising, display an expected pattern. While no causality is advocated, the interaction of these attitudes indicate the presence of a general although crude relationship.

It is now possible to analyse the internal structure of the components as it has now been demonstrated that the sample attitude responses tend to be related to the rankings of the role components in a similar fashion.

It remains to examine the survey in terms of the characteristics of the population: its demographic description, consumption habits, and economic activity in order to determine whether or not there exists any marked difference, other than disposable income as proposed by the sample design, amongst the respondents.

5. COMPARISON OF THE CHARACTERISTICS OF THE SAMPLES

In this section the characteristics of the samples will be assessed in terms of the demographic descriptions, consumption habits, and economic activities of the respondents as revealed by the third section of the questionnaire.

Demographic Descriptions

The demographic concepts which were surveyed, with question numbers in following brackets, were: the sex of the respondent (126), the age of the respondent (127), the number of family members (128), the number of income earners (129), the ownership of a car (136), the use of public transport for commuting (137), and the level of education (141).

The mean and modal values for these questions can be found in Appendix C for each sample.

In all samples there were more female than male respondents. This may have been due to the fact that traditional family roles often present the female with the task of doing the family shopping. There was no difference in this pattern across all samples.

With respect to the age of the respondents there is very little difference in the mean scale value for the Winnipeg Buyers Club and Consumers Association samples. The modal values would indicate an age category of from 35 to 44 years. For the Pretest/Control sample the age distribution was generally younger with a modal range of 15-24 years. For the overall sample the modal value and the mean are in close

harmony with the Winnipeg Buyers Club and Consumers Association sample. The implication of this age distribution is that the consumers were largely younger individuals who would be involved in establishing or maintaining their family units. As such they would likely be involved in heightened consumption activity as they undertook mortgages and other long term debts. This implication appears to be supported by the number of family members which for the older group was from 3 to 4 people and the younger group from 2 to 3 members. In the typical family unit this would represent a husband and wife and one to two children.

This impression is confirmed by the responses as to the number of income earners. This is lower on average for the older samples than for the younger sample. This would appear to describe a situation in which at least one of the adults remained at home and was responsible for child supervision. These characteristics describe the nature of the traditional family unit and reveal no drastic differences among the samples.

An attempt was made to gauge the mobility of the consumers by means of two specific questions. These questions related to the ownership of a car and the use of public transportation. The responses indicate that the Winnipeg Buyers Club sample did not generally own a car and therefore relied heavily on public transport, whereas the other samples revealed contrary behavior. It was assumed that the ownership of a car would allow for a greater degree of mobility. However, as the Winnipeg

Buyers Club sample was drawn from a low income area, which is largely categorized by many small "corner" grocery stores it is unlikely that mobility for comparison shopping would be as crucial a factor in consumption behavior for the sample because of the larger number of stores. Moreover, certain studies have indicated that central city "corner" grocery stores do not charge average prices which are significantly higher than suburban supermarkets ^{1/} although this is a debatable point. Hence it is assumed that the lack of mobility would not generate any drastic hardships for the Winnipeg Buyers Club sample.

The attempt to measure the degree of educational achievement was structured so as to assess the degree of latent knowledge which might be utilized by certain consumers in order to modify their behavior. In constructing the scale the assumption was made that as the individual attained a higher degree of educational achievement a greater amount of general knowledge would be accumulated. Consequently the scale increased in integer values as the grade school and then university training were accomplished. The trade school gradient was assumed to have a higher value in terms of generating knowledge potentially useful to consumption behavior because of the applied nature of the skills involved. The Winnipeg Buyers Club sample had the lowest modal and average level of achievement concentrated at the high school level. The other samples were characterized by university education with the Pretest/Control sample having the highest average education level.

^{1/} Sutton (62) Of course suburban supermarkets often run "special sales" which are not available to immobile inner city dwellers. Hence while "average" prices may not differ "actual" prices may be quite different at any point in time. In this assumption it is long term average price differences or economic hardships which are referred to. A recent study by the Food Prices Review Board tends to contradict this statement. Whether the price difference exists or not it has been found to be rather small.

While the generation of latent knowledge which would make a consumer more informed would be skill specific, the types of skills would consist of the ability to evaluate nutritional needs and performance, the ability to compare package sizes, and the ability to evaluate performance criteria. It was assumed that the lower level of educational achievement would probably not inhibit the development of these skills to a very large extent and hence no fundamental differences among samples were recognized on the basis of education.

The demographic factors do not appear to discriminate amongst the samples.

Consumption Habits

The relevant questions with respect to the consumption habits of the respondents, with question numbers following, were: the number of credit cards and accounts held (132), the use of that credit for food purchases (135), the use of coupons (138), whether or not a formal budget was kept (139), and the faithfulness with which that budget was followed (140).

The only group which revealed a large number of credit cards and accounts was the Consumer Association sample. The modal value for this group was 9 which was the maximum gradient. For all other samples the modal value was zero. The total sample held an average of between three and four credit accounts. However, the entire survey indicated that consumers rarely used their credit for food purchases. The only sample which expressed some use of credit for food was the Winnipeg Buyers Club.

The use of credit for food has been a traditional venue for the development of store patronage by "corner" grocery stores. Recently, however, a large number of food operations have begun to use the bank sponsored credit card arrangements for large purchases such as in freezer beef sales. There appears to be a trend towards greater use of credit in the food industry although for this survey all samples were coincident in the fact that they did not use credit for food.

The respondents in all samples indicated that they used coupons to a great extent. The value of this type of consumption behavior may be suspect although the savings generated usually appear to be worthwhile. The coupons are usually used in order to promote certain products. It may well be the case that these products would ordinarily be neglected in terms of a standard food basket. The use of coupons in an indiscriminate fashion may well lead to poor budgeting. This factor would appear to be relevant for this sample as the respondents did reveal a penchant towards experimental purchasing. It is not the purpose of this thesis to examine the relative merits of these promotional devices, however, it is interesting to note that all consumers appear to have been susceptible to coupon promotions.

In general a formal budget was not kept and therefore no budget was followed by any of the sample groups.

With respect to the consumption habits of the respondents there is no basis for assuming that any major differences existed among

the samples.

Economic Activities

The questions which were deemed relevant to assessing the nature of economic activities, with the numbers following, were: the level of family income (130), the percentage of that income which was saved or invested (131), the impression of the change in income level (132) and the cost of living (133) over the previous five years, the employment status (142), and occupation (143).

The average gross family income of the Consumers Association sample was the highest with a modal value of over \$18,000.00. The lowest average income was found for the Winnipeg Buyers Club with a modal value of \$3,000.00 - \$5,999.00. For the Pretest/Control sample and the total sample the modal income position was \$9,000.00 - \$11,999.00.

The income of the household was modified by the amount of savings and investment undertaken in order to estimate the disposable income. The Winnipeg Buyers Club revealed the lowest modal value of 0% - 5% for savings. The other samples and the overall survey indicated a modal value of 6% - 10%. The average indicates that the Pretest/Control sample was the most thrifty although they did not earn the largest average gross income.

The continuity of these scales allows for a measure of the disposable income available to each consumer. The procedure used was to take the mid-point of the category selected for both income and savings or investment and modify the gross income accordingly. The average dis-

posable income before taxes for the Winnipeg Buyers Club, Consumers Association, and the Pretest/Control samples were: \$4,955.26, \$11,452.57, and \$8,080.80 respectively. The average disposable income for the entire sample was \$9,307.91.

In theory taxation is based on the principle that higher income earners should pay more taxes. This would be a fundamental tool for the redistribution of incomes. However, it is argued that many taxes are direct taxes on consumer goods which are assessed regardless of the income level. As a percentage of the income earned, these fixed taxes, for the basic food basket, will be a larger percentage of the lower incomes than for the higher incomes. It is not the purpose of this thesis to assess taxation policies, but it appears that the tax effect is approximately equally distributed across all income ranges. Therefore, discretionary income, which can be used according to the whims of the individual, is assumed to increase as income rises.

The disposable income measure is the primary discriminating factor among these samples as would have been expected from the basis for the selection of these consumers groups.

All samples indicated that incomes and costs of living had risen over the previous five year period. No group revealed a tendency to discount the changes in income or costs.

The occupational distributions indicated that the higher income Consumers Association was characterized by the practising professional

category which included doctors, lawyers, and teachers. The Winnipeg Buyers Club was typified by housewife status on this scale. The Pretest/Control sample was typified by the academic professional category. In general the income levels reported can be seen as a function of the nature of the occupation performed.

The employment status of the Winnipeg Buyers Club sample indicated the largest degree of unemployment. This would have further compounded the income situation.

The results of this comparison of sample characteristics indicate that income is the fundamental discriminating factor amongst samples. It is suggested that if the major hypothesis of this thesis is confirmed; that inspite of social pressures, there exists a pattern of role components which is highly similar if not exactly the same for all consumer groups, then income distribution must be a key towards explaining and perhaps remedying the situation.

6. SUMMARY

In this chapter the survey was described in terms of its basic construction. The manner in which it was distributed was also discussed. It was found that the survey was both valid and reliable.

The patterns of responses and the structure of the correlations between the attitudinal responses and the intensity of judgments was

found to be similar for all of the samples.

It was found that the major characteristic which differed among the samples was the level of disposable income.

The task which remains for the following chapter is to attempt to uncover the components of the consumer role from the intensity scalings and to test the major hypotheses.

CHAPTER III

MULTIDIMENSIONAL SCALING ANALYSIS OF THE PATTERN OF CONSUMER ROLE COMPONENTS

In this chapter the intensity scalings will be submitted to the process of multidimensional scaling of individual differences as developed by J. Douglas Carroll and Jih-Jie Chang (14). The procedure will be discussed and the major hypotheses tested in the ensuing sections.

1. THE PROCEDURE OF MULTIDIMENSIONAL SCALING

The purpose of multidimensional scaling is to unfold or uncover the latent structure of a matrix which represents the degree of coincidence or affinity between the various positions of the matrix. The goal of this approach is to accomplish this in the minimum number of basic or elementary vectors which are required to span the space of relationships included within the data. [Shepard (64:1)] At the same time the restructured data are required to be as highly correlated with the original input data as possible.

At first glance these two objectives would appear to be contradictory. If all stimuli are perceived to be mutually exclusive and hence independent for all individuals, then no method of reducing the number of dimensions would be possible without reducing the degree of correlation between the input and scaled values. However, it is unlikely that such a situation would occur. As Clyde H. Coombs has remarked:

"In general inferences can only be drawn when the variety of behavior which is observed is less than the variety of behavior that was possible by the method of collecting the data. When things which are permitted to happen do not happen, "nature" has constrained the behavior and revealed itself; then significant inferences can be drawn. (17:143)"

Therefore it is concluded that if the true "nature" of the consumer role has been revealed in this thesis through the responses of the samples then a set of elementary vectors less than the total number of stimuli, or hypothesized components, must be available. It is the purpose of applying this technique to find this set and to assess its meaning.

Alternatives to Multidimensional Scaling

In the preceding chapter it was argued that attitudinal perspectives are the essential elements in the generation of consumer role behavior. It was also argued by implication that each individual, or group of individuals, will modify behavior according to an internal reference point which is generated through the interactions of various roles and the internal tensions which are created. In compliance with this discussion the two alternatives to multidimensional scaling; classical factor analysis and principal components will be discussed.

Classical factor analysis proceeds from the assumption that the basic dimensions of behavior are common to all individuals. It is further implied that this commonality will produce a set of vectors which can be judged to be important only to the extent that they account for a large

proportion of the variance in the input data. Thus while several responses will have large explanatory power, others will be considered to be irrelevant and hence neglected. Consequently this approach tends to concentrate on the responses rather than the respondents. These techniques also tend to yield a large number of basic dimensions.

[Shepard (64:2-3)]

Principal components analysis generates even more restrictions on the scaled values. The basic dimensions which are uncovered account for a decreasing amount of explained variance as the number of components increases. This structure imposes a direction of importance on the scalings. This situation has been compared to the analogy of travelling in a city where the individual must proceed at right angles in order to reach any given destination. This "city-block" metric [Green and Carmone (33:26-7)] imposes a response specific direction of motivation on the data.

Multidimensional scaling allows for a respondent specific rotation of the internal relationships which does not assume a common structure of the stimuli responses and which does not impose a directional bias in the results. The scalings produced from this approach can vary in intensity along each dimension for each group or individual and the first dimension need not account for the largest amount of variation. It is of course possible that the results of a multidimensional scaling will be highly similar if not identical to the results gained from the principal components or classical factor analysis. However, if this does occur it will be so,

not because of the algorithm used to manipulate the data, but because the data, when viewed in an appropriate fashion, will be best fitted by that scaling. This is not guaranteed and it is the function of the properties of the resultant matrix which is the most appealing feature of multidimensional scaling. It was for these reasons that this technique was chosen.

The Nature of the Data

The data must represent some degree of affinity of association between and among the components to be scaled. This is necessary in order that the scaled components can be interpreted as a set of positions in psychological space. One of the pioneer efforts in this type of analysis was the "points of view" analysis of Tucker and Messick [71]. This approach attempted to factor analyse a response matrix to a set of opinion questions. The plotted response scalings were non-integrable in that it was impossible to identify the particular individual or group of individuals responsible for any rotation. This study is an example of the response specific feature of the classical factor analysis techniques.

The Carroll and Chang model accomplishes the task of allowing for integrability by scaling an individual weighting vector as well as the input data. This resultant scaling corresponds to the ideal point of the individual preference space and hence also provides a reference for the assessment of individual positions within the rotation. [Coombs 17:8-11)] The implication of this approach is that the data must be of a form which allows for reciprocal relations to be present amongst the data before a scaling can be produced.

There are four basic types of data which can be used as an input to a multidimensional scaling analysis. They may be proximity, dominance, profile, or conjoint measurement data. These data types do not differ in terms of their method of measuring relationships, but rather in their method of collection and construction. The standard method of measuring relationships is always based on a format wherein a strong positive value indicates a direct relationship and a strong negative value indicates an inverse influence. These data are usually standardized in order that the maximum values in either positive or negative direction are unity.

To envisage a matrix as a proximity set is to conceive of it as measuring the degree to which a row value falls "close" to a corresponding column value. The entry, therefore, relates to the distance between the row and column positions that would occur if the data were plotted in some common multidimensional space.

Dominance data are also assumed to lie within some common space, but the entries represent the relative distances from some third or "ideal" point in this common space. Thus one row would dominate the others in terms of its closeness to the norm or reference point. This type of data interpretation requires that there exist an exogenous norm or reference point which is derived a priori to the conduct of the analysis.

The profile data require that the space spanned by either a row or a column, but not both, in one multidimensional space must be ordered according to some simple rule such as linear additivity. The entries correspond to the degree of discrepancy between the actual value and

the predicted value found by applying this rule to the actual data. This approach requires the specification of the rules which govern behavior before the analysis is conducted.

Conjoint measurement data, as the name implies, requires that the data be scaled on separate unidimensional spaces. The task of the analysis is then to develop a functional form which relates the two unidimensional spaces. This approach requires the specification of the two unidimensional spaces according to some basic rules outside the structure of the data.

With the exception of the proximity data the various methods of data interpretation require an a priori interpretation of the data structure. [Shepard (64:32)] In certain experiments which attempt to determine environmental impacts on attitudes these preconditions can be applied. For the sake of assessing the consumer role, however, no such knowledge existed and hence the choice to interpret the data as proximity measures was made.

The criteria which a proximity matrix must fulfill are listed by Shepard [64:24] as :

- a) symmetry,
- b) the largest elements must appear on the diagonal, and
- c) the matrix must be transitive.

These properties are all fulfilled by the simple correlation coefficient. In addition the correlation coefficient is reciprocal and hence is also integrable.

The data which were submitted to the analysis comprised the simple correlation coefficients for the intensity scalings of the fourteen hypothesized components on a sample basis as well as for the total survey.

The Methodology of Multidimensional Scaling as Applied to the Data

The methodology of the technique which was used is described in Appendix F. This methodology was developed and programmed as INDSCAL for the Bell Telephone Laboratories by Carroll and Chang. [15]. The particular version which was used was adapted to IBM 360/65 hardware by Vithala R. Rao and further modified by Arun K. Jain.

The basic input data may not be directly conformable to the exact specifications required. In the absence of any testing of the attitudinal reliability and validity of the responses it is often the case that the data are normalized by means of an external weighting pattern. This procedure is often used to normalize attitudes towards perceived attributes such as colour, sound, or texture so that various physical defects of the respondents can be compensated. In the case of this analysis it might have been suggested that the data be modified with a weighting pattern based on the fundamental sample discriminant of disposable income. However, the partitioning of the samples into sub-groups was based on the nature of involvement with the consumer role and hence such a modification would appear to be based on an exogenous causality theorem not described in this analysis. Moreover, this type of normalization would not be appropriate as the attitudinal relations with the intensity scalings did not differ across samples as shown in the preceding chapter.

In the appendix the procedure of scaling is described to continue until the $X(L)$ and $X(R)$ partitions of the stimulus matrix converge. This convergence will occur sooner for data with less variance than for data with a large amount of variance. It is unlikely that such convergence will be achieved exactly with any set of attitudinal data.

Therefore, a factor for convergence which denotes a critical level is introduced by the programmer. This factor is arbitrary and according to its magnitude may well terminate the iterative procedure prematurely. In practice the two matrixes are set equal to each other once this critical level is reached.

The equation of the two matrixes leads to the property that the sum of the squared coordinates along each dimension will be unity. [Wish, Deutsch, and Bener (72:294)] It follows then that the square of the Euclidean distance from the origin to the subject's ideal point, the point which is plotted according to the subject's weighting of each dimension, will indicate the amount of variance attributable to that subject. It follows also that as the coordinates are weighted by the weighting of each dimension for each subject, the sum of the square of the modified coordinates will be equal to the total variance along each dimension for each subject. Consequently the ratio of variance for each dimension and for each stimulus across all dimensions can be computed to indicate the percentage of explained variance in the rotation.

For analytic reasons this latter type of normalization is preferred. It is also realistic with respect to the consumer role as the constant state of flux among roles will undoubtedly generate a certain degree of inequality between the $X(L)$ and $X(R)$ matrixes even after a large number of iterations.

2. THE RESULTANT MULTIDIMENSIONAL SCALINGS

In this section the results of the multidimensional scaling of the intensity rankings will be described, the basic dimensions will be interpreted, and the group rotations described.

The General Nature of the Results

The coordinates of the rotated space are presented in Table X. This three dimensional space accounted for 88.43% of the variation in the original data. This was reached after fifty iterative steps and revealed a correlation with the original data structure of .9404. When the data were run in only two dimensions the amount of variance explained was 68.31% while a four dimensional rotation accounted for 91.02%. Successive iterations would have increased the power of the scaling operation, but only in marginally diminishing increments. [Shepard (63:129)] It is suggested that the third dimension was a sufficient termination point as no further dimensions could have added significantly more information.

This first general result supports the contention that the fourteen components did successfully span the space of the consumer role. If a component had been suggested which did not conform to the others in specifying the basic nature of the consumer role, it would have been expected to reduce the explanatory power of the scaling as well as to result in an obviously unrelated scaling. The data are presented graphically in Figure 2.

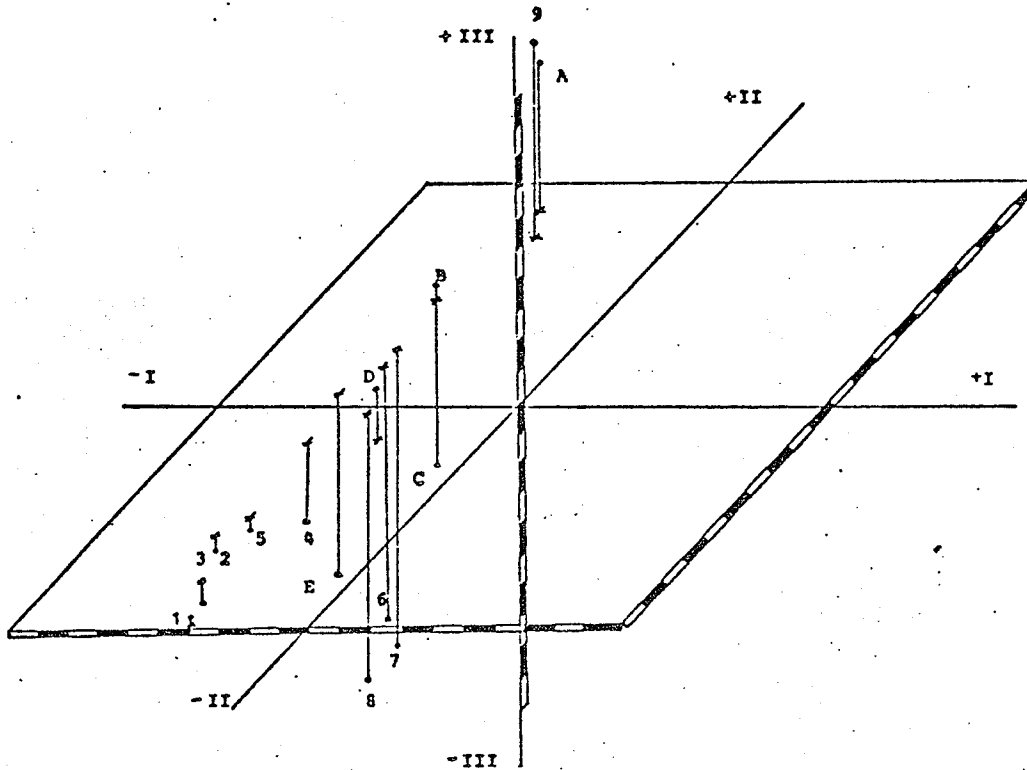
TABLE X

Dimensional Coordinates of the Multidimensional Scaling of
the Intensity Judgments

Component	Dimension I	Dimension II	Dimension III
Price Level	-0.20581	-0.50383	0.00945
Meaningful Choice	-0.30925	-0.29108	-0.05487
Price Stability	-0.24871	-0.37583	-0.07364
Competitive Environment	-0.28774	-0.08624	-0.20760
Product Availability	-0.26395	-0.25331	-0.04342
Production Efficiency	-0.27940	0.09299	-0.44437
Distribution Efficiency	-0.27979	0.12025	-0.46728
Pricing Efficiency	-0.23599	-0.01340	-0.43967
Nutritive Value	-0.23017	0.36866	0.31942
Physical Safety	-0.26518	0.40681	0.24342
Information	-0.29779	0.24089	0.01840
Ability to Voice Grievances	-0.30368	0.24357	-0.28100
Quality	-0.19359	-0.07356	0.07875
Representation	-0.30685	0.03346	-0.30098
Correlation	0.940363		
R^2	0.884282		

FIGURE 2

GRAPHICAL REPRESENTATION OF THE SCALED COORDINATES



CODE:

1. Price Level
2. Meaningful Choice
3. Price Stability
4. Competitive Environment
5. Product Availability
6. Production Efficiency
7. Distribution Efficiency
8. Pricing Efficiency
9. Nutritive Value
- A. Physical Safety
- B. Information
- C. Ability to Voice Grievances
- D. Quality
- E. Representation

The intervals along the axes constitute .05 scale units.

If a component were unrelated to the other components it would be expected to be isolated from the other points. Such an unrelated component may take two forms. Should it be totally irrelevant to the nature of the pattern created by the other components it would be found at a greater distance from the origin. If it were a totally neutral factor it would be expected to be found at or near the origin. In assessing the relevance of these components it is necessary to determine whether the most extreme distance and the smallest distance components are essential to the performance of the consumer role. If they are, then it is asserted that those components which lie within the range of these components are also relevant to the consumer role.

The distances from the origin for the components graphed in Figure 2 are presented in Table XI. The most distant component is that of the level of prices while the component scaled most closely to the origin is that of quality. It would appear that both of these components are appropriate to the consumer role and hence it appears that the completeness of the scaling in coverage of the consumer role is supported by these data.

This does not guarantee that these fourteen components are the only components which might have been assessed. However, these results suggest that these fourteen components are necessary elements of the consumer role.

There would appear to be some overlap in the scaling of these

TABLE XI

Distances from the Origin of the Scaled Components

Component	Distance
Price Level	.54433
Meaningful Choice	.42822
Price Stability	.45665
Competitive Environment	.36514
Product Availability	.36815
Production Efficiency	.53308
Distribution Efficiency	.53287
Pricing Efficiency	.49918
Nutritive Value	.53937
Physical Safety	.54320
Information	.38347
Ability to Voice Grievances	.48011
Quality	.22156
Representation	.43112

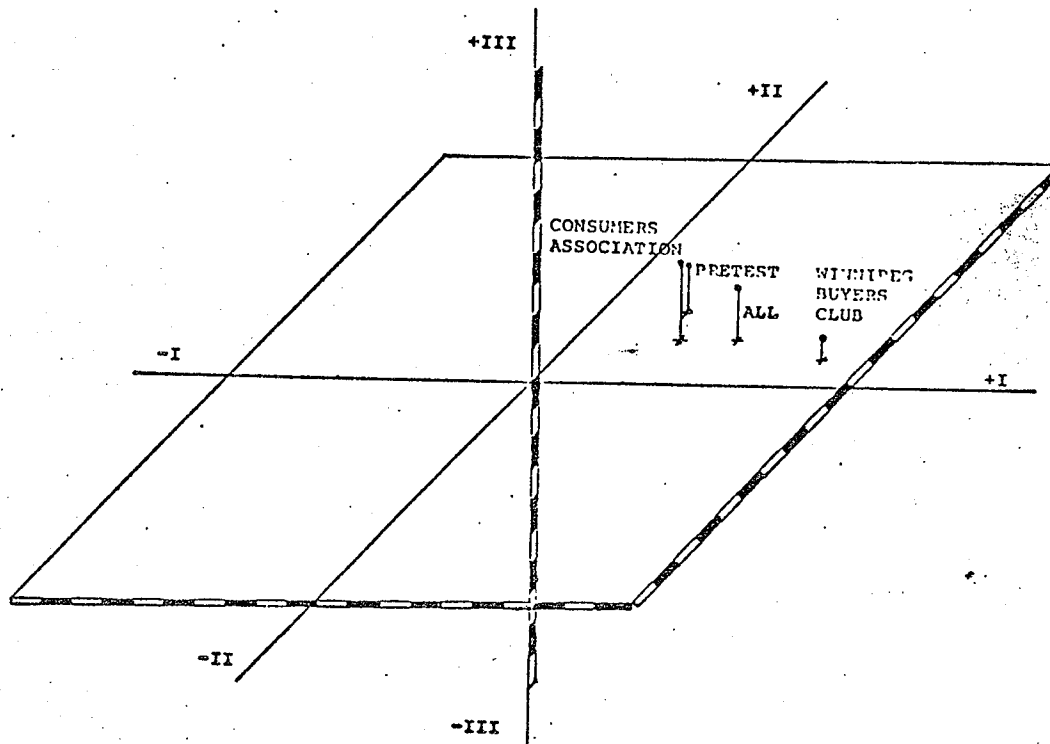
components. For example the components relating to efficiency of production, distribution and pricing are approximately equidistant from the origin. However, pricing efficiency is scaled negatively on the second dimension while the efficiency of production and distribution is scaled positively. The latter two efficiency components might have been better scaled if only a general efficiency component had been used. However, the distribution efficiency scaling was scaled with a greater magnitude on all three dimensions, although in the same direction. This would indicate that some degree of differentiation would exist between the two concepts. The same situation is revealed for the product attribute questions of nutritive value and physical safety which are highly similar in their scalings. Again the physical safety component is given a stronger magnitude than nutritive value and for the reasons discussed above appears to indicate some discrimination between the two concepts. In general the other seemingly similar concepts are scaled differently, usually in terms of the sign of the scaling on different dimensions.

This procedure also produces a set of dimensional weightings for each individual subject. The scalings of these dimensions and the plot of these ideal points are presented in Figure 3. The distances from the origin are also included in the legend for this graphical presentation of the group weightings.

This structure indicates that the Consumers Association and the Pretest/Control samples are very closely positioned while the Winnipeg Buyers Club sample is the farthest from the origin. Although all samples reveal positive weights for all three dimensions the Winnipeg Buyers Club

FIGURE 3

GRAPHICAL REPRESENTATION OF SAMPLE 'IDEAL' POINTS



The intervals along the axes constitute 1.000 scale unit.

Coordinates and Distances from the Origin

Sample	Dimensions			Distance
	I	II	III	
Winnipeg Buyers Club	8.94083	0.94221	0.65294	9.014
Consumers Association	3.40315	1.77982	2.41411	4.536
Pretest/Control	2.91921	2.87965	1.56372	4.388
Total	5.16888	1.72848	1.73211	5.718

sample is the sample with the largest weight on the first dimension. For the second dimension the largest weight is placed by the Pretest/Control sample and for the last dimension the Consumers Association reveals the largest weighting. Thus the ideal points appear to be positioned according to different criteria by each sample.

Interpretation of the Axes

As is the case with any scaling of data the basic vectors or dimensions which span the scaled space are mechanically derived and hence do not relate to any specific feature of the data directly. It is therefore necessary to interpret the data according to the type of scaling revealed along these dimensions for the various components. It will be remembered that the discussion of the consumer role centered on a basic interpretation that there existed three realms or levels of role performance which were the private, social, and public realms. The fact the rotation was acceptably efficient for a three dimensional scaling lends some support to this discussion. However, it is also important to evaluate the degree of interdependence of these axes, the relative homogeneity of the variance along each axis as compared to the others, and the nature of the ordering of components along the axes themselves. These considerations are essential in the interpretation of the axes as they may either confirm or confound the interpretation.

If the axes are highly correlated, as measured by the simple correlation coefficient, then there will be a considerable overlap in

the scalings of the data. The direct correlation of the axes would indicate that at least one of the axes was redundant and might suggest that such an axis be eliminated or that a linear combination of the axis and another one be used in its place. If the axes were highly correlated it would be expected that the introduction of such a redundant axis would lessen the power of the rotation. This was not the case as explained in the preceding section. In addition the simple correlations between dimensions I and II, I and III, and II and III were: $-.01216$, $.04821$, and $.01131$ respectively. These are sufficiently near zero to indicate that no direct correlation between pairs of axes existed in the rotation.

If the variances of the coordinates along the axes are not similar the situation would exist wherein the axis that revealed the largest variance would also, by partitioning, cover the variance in the other axes. If this were the case then there would be reason to suspect that the scaling had accounted for an external or exogenous influence on the rotation in one of the dimensions. In order to test this possibility an F-test for the homogeneity of variances in the scaled components was conducted. The critical value for this test at the five percent level of confidence was 2.48. The calculated values of F for the contrasts: dimensions I and II, I and III, and II and III were 1.013445, 1.020933, and 1.007389 respectively. This test indicates that the variances of the scaled coordinates were not statistically different.

The basic interpretive tool for the assessment of the axes is

the ordering of the components along each axis. If the orderings are similar along any pair of axes, but neither directly correlated nor different in variance, this would imply that some functional relationship between the dimensions was present. If such a relationship is present the interpretation of the data would have to be modified and perhaps a profile measurement used. The rank order correlation coefficients for the scalings were computed and the results are presented in Table XII. None of the paired dimensions are indicative

TABLE XII
Rank Order Correlation Coefficients Among All
Pairs of Dimensions

	I	Dimension II	III
D			
i			
m I	1.00000	0.07252	0.15163
e			
n II		1.00000	-0.13414
s			
i III			1.00000
o			
n			
Critical Values: 5% 0.456			
1% 0.645			

of similar rankings.

The most striking characteristic of the scaling structure is that the components are all scaled negatively on the first dimension. The second dimension is split evenly between positive and negative coordinates. Along this dimension the negative range dominates the positive scalings. The same dominance occurs along the third dimension although there is a larger number of negative scalings than positive ones. The structure of the signs indicates that there is a fairly well defined division of components on the second and third dimensions. This division feature of the scalings will be used to assess their relative meanings.

The most negative of the components on the first dimension were those of meaningful choice, representation, and the ability to voice grievances. The least negative components were those of quality, price level and nutritive value. Although there is no overriding distinction in this pattern, the trend in the scalings seems to indicate that the most obvious consumer role effectors which concern prices and product characteristics were the least remote considerations.

This would imply that there was a tendency towards a more basic or individual need satisfaction dominance along this dimension. This set of components conforms to the private or biogenic needs.

On the second dimension the most negative scalings were for the components of price level and stability while the most positive values were for nutritive value and physical safety. The division along this axis implies a distinction between the price and supply component groups and those of the product characteristics and communications. It would appear that the positive values would indicate an area of cooperative

consciousness on the part of consumer acting in combination. The communications components are clearly only of value to the consumer according to his willingness to contribute and receive information flows. In a similar fashion the supply conditions are only appraised by means of the consumer's participation in the marketplace. These positive weightings denote the more remote components of the consumer role and this dimension is interpreted as the social domain.

Nine of the components were scaled negatively on the third dimension. The most negative of these components were those relating to the efficiency of production, distribution and pricing. The positive components were largest for the nutritive value and physical safety elements. In this structure the price level was positively weighted while the price stability component was negatively weighted. There appears to have been a division within the subclasses of the components which provided positive weights for only certain aspects of these subclasses. This distinction implies that the dimension evaluates components which would affect consumer role behavior negatively such as the stability of prices, and evaluates positively those attributes of consumption which are subject to direct consumer influence, such as the level of prices. The interpretation of this dimension is that it reflects the public consciousness of the consumer role.

These interpretations are weak, as they must be. They must be weak as they represent the positions of the consumer role net of all other role interactions which generate the paradoxes of the consumer interest and may also operate so as to modify these intensities. The position has been advanced that no functional relationship within the dimensional structure

exists. However, this does not imply that such a functional form may have had an indirect influence on this rotation, although it was not possible to detect its presence.

It may well have been advisable to monitor the dimensional scalings according to some set of questions which had been tested as indicators of the private, social, and public inclinations of the sample. This was not deemed to lie within the scope of this thesis, however, as this would require extensive design evaluation sampling. The axes will be referred to in the balance of this study by their ordinal designations and not by the interpreted meanings.

The Sample Group Rotations

The fact that the dimensions were not highly correlated allows the generation of the sample weightings and the percent of variation explained by each component to be computed. The plot of the sample rotations is presented as Figure 4. The percentage of variance explained in the rotation for each sample is contained in Appendix G.

The coordinates of the subject space for each of the samples is found in Appendix G.

The first transparency of Figure 4 describes the subject space of the Winnipeg Buyers Club Sample. The constellation of points for this sample is concentrated in the cubical structure corresponding to the negative dimensions of the scalings. The cluster is the most distant from the origin and appears to be most dominated by the negative scalings

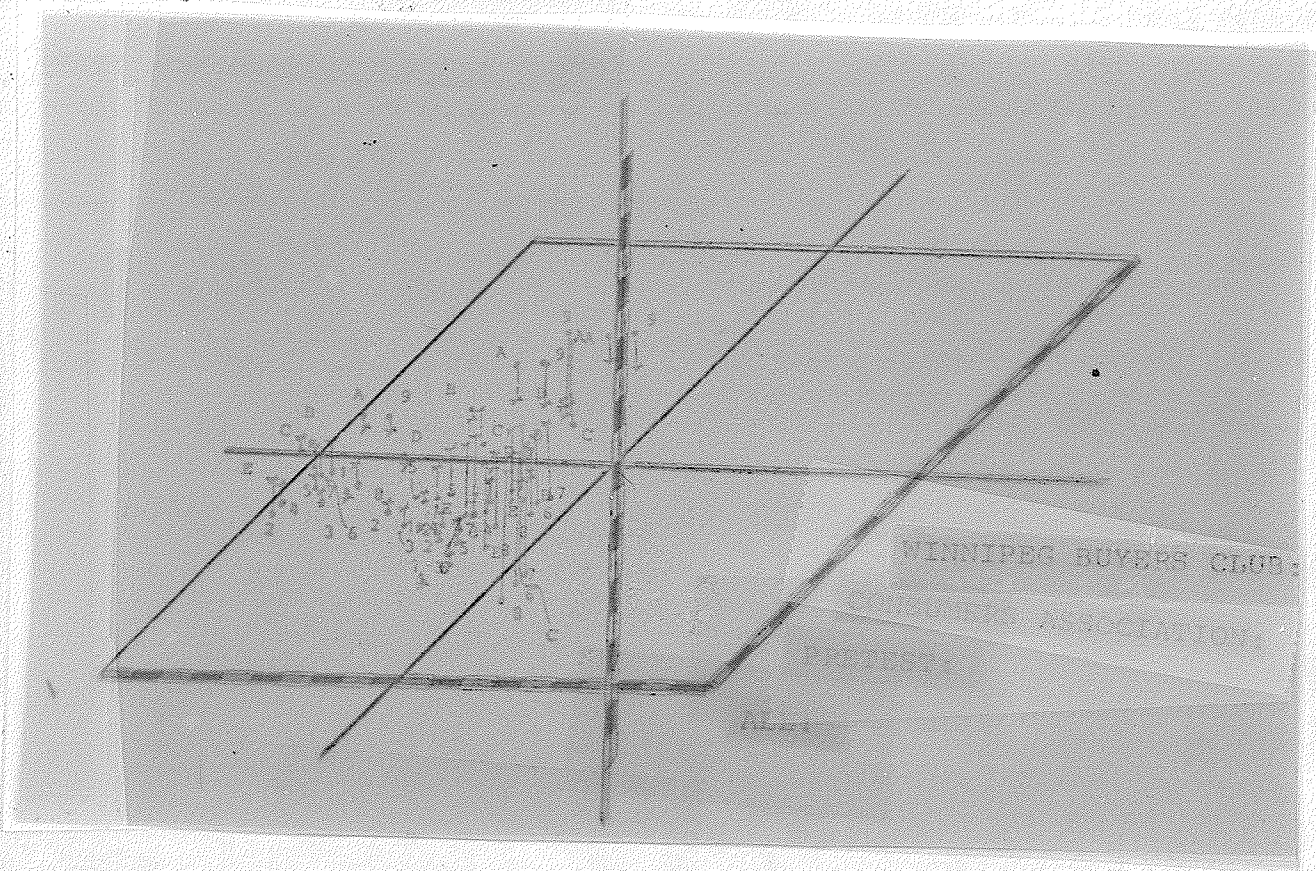
on the first dimension. The second transparency relates to the rotation of the Consumers Association scalings. This rotation indicates a cluster which is stretched along the third dimensional axis. The third transparency relates the cluster of points for the Pretest/Control sample and this cluster stretched along the second dimensional axis. The final cluster corresponds to the total sample and by construction appears to be an average of all of the influences.

This set of clusters indicates that the samples were influenced by different dimensions in the generation of the rotations. The major influence of the first dimension reveals itself in the positioning of all clusters to the left of the third dimensional axis. However, the stretching of the clusters indicates the dominance of the other dimensions for different samples. Such a set of results are only possible under the technique of multidimensional scaling.

The calculated percentages in Appendix G indicate that the percentages of explained variances along each dimension confirm this pattern. The percentages are presented in summary form in Table XIII. For the Winnipeg Buyers Club sample the dominance of the first dimension is profound as it accounted for over ninety-eight percent of the explained variance. The Consumers Association sample was also highly influenced by the first dimension although the third dimension accounts for half the variance explained along the primary axis. For the Pretest/Control sample the variance on the second dimension is almost equal to the variance on the first dimension. The peculiar nature of the structures is therefore explained by the percentage of variance included in the power of the

FIGURE 4

GRAPHICAL REPRESENTATION OF THE SUBJECT SPACES



CODE:

- 1. Price Level
- 2. Meaningful Choice
- 3. Price Stability
- 4. Competitive Environment
- 5. Product Availability
- 6. Production Efficiency
- 7. Distribution Efficiency
- 8. Pricing Efficiency
- 9. Nutritive Value
- A. Physical Safety
- B. Information
- C. Ability to Voice Grievances
- D. Quality
- E. Representation

rotation. For the overall sample the first dimension again dominates while the second and third are of approximately equal importance.

In all cases the simple correlation coefficient between the scalings and the original sample specific data are greater than .70 with the largest value of the coefficient found for the total sample.

The computation of the percentage of variance explained along each of the dimensions also enables the computation of the contributions of each component to the explained variance across all dimensions.

TABLE XIII
Percentages of Explained Variance for each Dimension
by Sample Group

Sample	Dimension		
	I	II	III
Winnipeg Buyers Club	98.382	1.090	0.525
Consumers Addociation	56.281	15.393	28.323
Pretest/Control	44.245	43.057	12.695
Total	81.691	9.133	9.173

The ranking of these components in terms of the percentage of variance explained is presented in Table XIV and the rank order correlation coefficients for this explanatory structure is presented in Table XV.

For all sample subsets the component accounting for the least percentage of explained variance is that of quality. This was the only component which was ranked similarly for all of the samples. The component which accounted for the greatest explanation of variance for

the Winnipeg Buyers Club was meaningful choice. For the Consumers Association and the Pretest/Control Samples distribution efficiency and price level were the dominant components respectively. For the overall sample the ability to voice grievances held the largest influence.

The rank order correlation coefficients of Table XV indicate that there was a statistically similar ordering for the Winnipeg Buyers Club and the Pretest/Control samples. This relationship was the strongest of all of the relationships in the survey although it was only significant at the five percent level of confidence. The other ordering pair which was similar was between the Consumer Association and the overall sample. This also was only significant at the five percent level of confidence. All of the other comparisons were insignificant.

In view of the fact that the rotations do not have the same general shape for each of these contrasts which appear to have arisen from a similar ordering, it would appear that the dimensional impacts are sufficient so as to discount any similar pattern of responses.

One of the other pieces of information which is unique to this technique of multidimensional scaling is that the ideal point or reference position for each sample is also scaled. If the concept of distance is valid with respect to the entire space then the extent of the psychological distance from the ideal point to the positions of the

TABLE XIV

Rankings of Components According to Percentage
of Variance Explained Across all
Dimensions

Winnipeg Buyers Club	Consumers Association	Pretest/ Control	Total
Meaningful Choice	Distribution Efficiency	Price Level	Ability to Grievances
Representation	Production Efficiency	Physical Safety	Meaningful Choice
Ability to Voice Grievances	Pricing Efficiency	Nutritive Value	Represent- tation
Information	Ability to Voice Grievances	Price Stability	Distribution Efficiency
Competitive Environment	Physical Safety	Meaningful Choice	Production Efficiency
Distribution Efficiency	Nutritive Value	Ability to Voice Grievances	Physical Safety
Production Efficiency	Representation	Distribution Efficiency	Information
Physical Safety	Meaningful Choice	Information	Competitive Environment
Product Availability	Price Level	Production Efficiency	Nutritive Value
Price Stability	Competitive Environment	Product Availability	Price Stability
Pricing Efficiency	Information	Representation	Pricing Efficiency
Nutritive Value	Price Stability	Pricing Efficiency	Product Availability
Price Level	Product Availability	Competitive Environment	Price Level
Quality	Quality	Quality	Quality

TABLE XV

Rank Order Correlation Coefficients for Components
on the Basis of the Percentage of
Explained Variance

Sample	Winnipeg Buyers Club	Consumers Association	Pretest/ Control	Total
Winnipeg Buyers Club	1.00000	0.2263	0.6219*	0.1868
Consumers Association		1.00000	0.1252	0.5033*
Pretest/ Control			1.00000	0.2044
Total				1.00000

scaled components must represent the degree of affection or disaffection for each of the groups with respect to each of the components. The distances from the ideal points to the scaled positions for each sample groups is presented in Table XVI.

In this table the most striking feature is that the Winnipeg Buyers Club sample reveals the minimum distance from the ideal point to the components of any of the samples. This would indicate that there is less disaffection among this sample's members than among the other members of the survey. The largest degree of dispersion is found for the Consumers Association sample.

This phenomenon would indicate that either the Winnipeg Buyers Club sample is more satisfied with their ability to operate as consumers

TABLE XVI

Distances from Group Ideal Points of Components
by Sample Group

Componet	Winnipeg Buyers Club	Consumers Association	Pretest/ Control	Total
Price Level	0.64677	2.39130	1.54894	1.71574
Meaningful Choice	0.68877	2.54657	1.64952	1.82715
Price Stability	0.70102	2.59188	1.67887	1.85966
Competitive Enviromment	0.78849	2.91528	1.88835	2.09169
Product Availability	0.68129	2.51893	1.63161	1.80732
Production Efficiency	0.94309	3.48687	2.25859	2.50181
Distribution Efficiency	0.95805	3.54217	2.29441	2.54149
Pricing Efficiency	0.94002	3.47552	2.25124	2.49367
Nutritive Value	0.44438	1.64299	1.06423	1.17884
Physical Safety	0.49400	1.82647	1.18308	1.31048
Information	0.64093	2.36969	1.53495	1.70024
Ability to Voice Grievances	0.83642	3.02947	2.00312	2.21883
Quality	0.60152	2.22400	1.44058	1.59571
Representation	0.84946	3.14071	2.03437	2.25344

or that the social pressure acting upon their consumer role is so binding as to force them to a more stable consumer position. The former interpretation appears to be unrealistic as the organization from which this sample was drawn was established in order to reduce the cost of food items. It would appear that the very reason for its existence was the pressure on family consumption caused by low incomes. Disposable income was found to be the major discriminant among the samples and it appears that this effect is revealed in the structure of the psychological distances.

The computation of the rank order correlation coefficients for these orderings with respect to the ideal points indicates that the coefficients would be unity. This would reveal that all of the samples adjudicate these components in the same fashion at least with reference to their internal expectations. This ordering reveals that the efficiency conditions are the most remote while consideration with respect to product characteristics are the most important. Contrary to what might have been expected, price level and price stability are not the most important considerations. Although information is a crucial factor, the other communications components are considered remote. This remoteness also applies to the supply components.

3. ASSESSMENT OF THE MAJOR HYPOTHESES

The major hypotheses proposed for this study were:

- a) that the space of relevant components to the kernel of consumer behavior, defined to be the consumer role, is spanned by the set of fourteen hypothesized components;
- b) that this space is defined by a set of three realms of consciousness which correspond to the biogenic needs, social wants, and public demands of consumers and this structure would be revealed

in the elementary vectors or dimensions of the role space;

- c) that social pressures operate so as to constrain the perceived feasibility of the performance of the consumer role and this structure of components will reflect these differences so that as economic pressures are relaxed the private realm of consumer behavior is relaxed and other realms are emphasized; and
- d) that inspite of the fact that no common ordering of components is likely to exist without reference to the particular characteristics of the consumers themselves, that when these characteristics are taken into account and the analysis is centered around the consumers own reference space or ideal point a common ordering is to be found.

The first major hypothesis is supported by the explanatory power of the multiple correlation coefficient for the multidimensional scaling which accounts for 88.43% of the variation. The fact that all components are included in the space traced by a radius between two elements which are considered to be essential elements of the consumer role indicates that all points are fundamentally involved in this role. While it may have been possible to include more refined components or to have collapsed certain components for ease in interpretation, there is no reason to suspect that such a procedure would have affected the model.

The rotation was best scaled by three elementary vectors or dimensions which were not internally correlated, revealed homogeneous variances, and would appear to have been derived from separate orderings. However, the axes do not lend themselves to a strong interpretation as the biogenic needs, social wants, and public demands as hypothesized. This lack of identification is due to the fact that the axes do not appear to discriminate the components by means of signs into clearly

defined groups. The first dimension is weighted negatively for all components. The second and third dimensions do provide some discrimination, but not of sufficient strength to support a strong interpretation of the axes.

The third hypothesis follows from the second and as a result of the lack of strength in the second is necessarily weaker than would be expected. The pattern of relationships does hold for the Winnipeg Buyers Club as this sample was dominated by the first dimension. The highest income group was also dominated by the first dimension although it recorded the largest percentage of explained variance for all groups on the third dimension. For the Pretest/Control sample the second and first dimension were weighted almost equally. It appears that some shifting is present according to the relaxing of the economic pressures, but this shift is revealed only as a shift away from the first dimension and its destination is not clearly specifiable.

The final hypothesis is strongly confirmed by the computation of the distances of the scaled components from the group ideal points. The structure of these distances indicates that the Winnipeg Buyers Club sample is closest to its ideal point of all of the samples. This is interpreted to mean that they are more heavily constrained than the other samples and therefore tend towards a greater degree of acceptance.

In the final chapter of this thesis the results of these tests will be assessed in terms of their implications for public policy with respect to consumers.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

1. SUMMARY

In the first chapter of this thesis the discussion of the problems of consumers was cast in the light of modern market development which it was advocated had tended to isolate the consumer in a large market wherein he consumed increasingly sophisticated products. These products were brought to the market by many individuals in many places who had produced, processed, packaged and promoted the product. The consumer is therefore left with the decision of whether to purchase or not to purchase the product. With respect to food the fact that food is essential to existence relegates this choice to a less meaningful position. In essence the consumer must have faith in the market to serve his interests.

This new dimension of faith was cast in terms of the paradoxical nature of the consumer which leads to a natural neglect of this interest both by consumers themselves and by the political process. It was therefore concluded that the consumer interest is best viewed as a role, or a cluster of rights and duties, which is constantly in conflict with other competing roles.

The review of the literature indicated that very little research had been conducted in terms of an examination of consumer role performance.

In fact it was concluded that most of the attempts at the assessment of the consumer role were concerned with influencing rather than understanding the consumer.

Because of the complexity of the consumer role the case was made for the use of a multidimensional approach rather than a unidimensional method. The basic model which was used was that of James McNeil which was modified by removing the restriction that consumer attitudes and knowledge were additive. The resultant model accounted for only attitudes and social forces. The social forces were removed by structuring the data so as to provide similar social influences for each sample.

From various statements about the consumer a set of fourteen components were developed. These components were:

1. Price Level
2. Meaningful Choice
3. Price Stability
4. Competitive Environment
5. Product Availability
6. Production Efficiency
7. Distribution Efficiency
8. Pricing Efficiency
9. Nutritive Value
10. Physical Safety
11. Information
12. Ability to Voice Grievances
13. Quality
14. Representation

In order to test this model a mail survey was designed which was composed of three sections. The first dealt with basic attitudes related to the components. The second dealt with the fashion in which these components were evaluated by the respondents. The third section

sampled characteristics of the sample with respect to demographic features, consumption habits, and economic endowments.

This survey was distributed to members of the Winnipeg Buyers Club, the Consumers Association of Canada, and to members of the Department of Agricultural Economics and Farm Management at the University of Manitoba. The latter sample served both as a pretest and as a control.

In general the results of the survey were both valid and reliable. The questions were structured as five point unfolding scales and hence the validity of the responses was tested by means of the skewness coefficient. The sample design was that of a stratified random sample and the results were generally indicative of a high degree of efficiency. The expected rote responses to the second part of the questionnaire were present and the results were modified by the manufacturing of a new scale measuring the product of the rating and ranking scales for each component. This new scale was labelled as the intensity of the judgments. It was found that there was no detectable difference in the samples on the basis of the comparison of patterns of responses to the attitudinal questions. This relationship held for all of the components with the exception of the representation judgments. It was found also that the intensity scalings were correlated as expected with the attitudinal questions with the exception of the information component where the pattern was not as well defined. In general the questionnaire was shown to be a reasonable sample of the attitudes and priorities of the consumer sampled.

It was also found that among the characteristics of the samples

the most important discriminant was that of disposable income.

In the third chapter the methodology of multidimensional scaling was discussed and the simple correlation coefficients between the intensity scalings was defined as a measure of the association between components.

The results indicated that the fourteen components were sufficient in order to span the space of the consumer role. It was also found that the number of elementary vectors required to span the space was three although the interpretation of these axes was not readily apparent. It was also found that with respect to the ideal points the ordering of components was the same for all samples.

2. CONCLUSIONS

As mentioned earlier in the assessment of the questionnaire the sample was chosen so as to concentrate on those individuals who had indicated that they held a strong consumer role. In addition there is also the problem that these responses are concerned only with food. However to the extent that food is the most basic of all concerns, nothing will have been lost. Because of this, it is advisable that the following general conclusion must be viewed with some alteration to bias. However, if the role theory has been applied correctly in this thesis, the conclusions which follow will be built upon the unversality of the role and not the representative nature of the sample. Therefore the most crucial attitudes to the most important consumer situation amongst those who choose to start out as concensus will have been found.

Moreover, the major findings of this thesis indicate that their is a priority amongst consumer attitudes which should be served. The servicing of these priorities reveal that there is in fact a route for the satisfaction of the agrieved consumer which can lead to policy and program prioritization.

The primary conclusion which follows from this analysis is centered on the fact that the kernel of the consumer role as centered on the group ideal points is the same for all of the samples. It is implied that differences in consumer role performance are a priority of the social and economic constraints operating on each respondent.

It is therefore implied that a basic consideration in the development of an overall consumer policy should be concerned with eliminating differences in the environment of the consumer role. As the primary discriminant among the samples was that of disposable income, it is suggested that policies designed to improve the equitable distribution of income are a useful tool in this procedure.

Having achieved this objective it is then necessary to develop policies which would serve for the maintenance of consumer satisfaction.

The most distant, and hence least satisfactory, components are those of efficiency. The constant barrage of reports of profits accruing to industries at the time of shortages, the existence of bottlenecks in distribution channels as the result of strikes, lack of rolling stock for transportation, and the existence of products which are stored until they are no longer safe for consumption, has undoubtedly had some impact on this set of attitudes. At the same time the practice of "double ticketing"

of products in supermarkets cannot but help to accentuate this disaffection. It is suggested that programs which are designed to eliminate excessive profits, speed up the efficiency of transportation, and enforce the pricing regulations of the existent Combines Investigation Act would operate towards these ends.

Representation of consumer concerns to public officials and the other market participants through organizations sponsored by consumers does not appear to be perceived as effective. The structure of these components indicates that more governmental responsiveness should be developed. This trend has already developed through the formation of the Food Prices Review Board. It would appear to be advisable that this type of activity be continued and expanded.

The ability to voice grievances, the nature of the competitive environment, and the stability of prices are the remaining elements of the most distant components. It may be argued that if representation is expanded the presentation of an alternative channel for complaints might remove some of the contentiousness of this component. It is also argued that the regulation of efficiency might well operate so as to assure consumers that competition was in fact taking place. In a similar fashion the efficiency of pricing would possibly also serve to stabilize prices.

The most imminent components are those of meaningful choice, product availability, price level, information, and the three product specific components of quality, physical safety, and nutritive value. If any program or policy is to be designed to service these components it is

suggested that it be geared towards the education of consumers. Programs which are defined so as to show consumers the ranges of products over which they may make their choice, the properties of the product in terms of its expected performance, safety for use, and nutritional value would be expected to aid the consumer in the performance of his role. It is also suggested that labelling laws be enforced so as to enable consumers to compare product sizes and uncover the actual unit prices. It is concluded that some form of consumer education must be presented in order to form an alternative to the major information source of advertising.

It has been concluded that a social policy designed to redistribute incomes on a equitable basis would be a first step in the solution of consumer problems. The present progressive taxation system has avowedly been designed to accomplish this task. However, it would appear that we still have a large proportion of our society either at or below the "poverty level." We may in fact always have the poor with us. Admission of this fact would suggest that concentration of efforts be placed on the most remote components first as we have listed them above. It would appear that the necessary mechanisms to act in these directions are already established. It remains therefore to use them effectively in the service of consumers.

However, as these findings indicate it is also essential that these programs be administered in the service of an overall social and economic consumer policy.

3. SUGGESTIONS FOR FURTHER RESEARCH

This thesis has concerned itself with a task which was primarily

investigative in nature. Having uncovered some components of the consumer role it is suggested that the data incorporated here can be cross referenced by any one of the attitudinal or demographic scales. It would be possible to partition the intensity matrixes on the basis of the impressions of prices in general or for specific products in order to investigate the nature of the components in such decisions. In a similar fashion it would be possible to test various hypotheses with respect to educational impacts, family size effects, and even age distributions. The data may in fact be "sliced" in any number of ways and various features analysed.

As we reach an ever increasing degree of sophistication in the techniques of computer simulation of economic activities, it may prove useful to enter evaluative vectors such as are found in this study in order to assess the impacts of various modules in the models.

Indeed, if this thesis has shown a new approach to economic investigation, that approach of multidimensional scaling can readily be applied to any of a number of economic problems. It may well prove useful to investigate the parameters and dimensions of other market roles such as those of the farmer, the processor, the distributor and the retailer. Such investigation may indicate various levels of conflict which if duly noted may be avoided in the planning and administration of certain government policies.

It is suggested, however, that before any or all of these applications be attempted, that the design of the sample be re-worked. It is suggested that a smaller number of attitudinal questions are warranted. The length of the questionnaire can be decreased and a larger amount of usable samples could be recovered. It is suggested that the

efficiency components could probably be lumped into one component as might the nutritive value and physical safety elements. It is also suggested that the demographic section could be reduced in size.

This study has been concerned with an assessment of the consumer interest as concentrated on food consumption. It may well be the case that a more general investigation of the consumer interest could be based on a wider range of products. A suggestion which might be used in the generation of such a survey would be to ask the respondents to indicate the proportion of income spent on such commodities. This would allow for the use of profile data or perhaps even conjoint measurement data for the scaling operations. It is also suggested that a set of proven attitudinal questions be included to act as a monitor for the interpretation of the axes.

It is hoped that this thesis has uncovered some new information in the assessment of the position of consumers in the modern market. It is hoped as well that this information may be applied in policy formulation and evaluation so that by proxy at least the interests of consumers may be served.

APPENDIX A
COVER LETTER AND QUESTIONNAIRE



The University of Manitoba

Department of Agricultural Economics
and Farm Management

Winnipeg, Canada
R3T 2N2

Dear Sir or Madam:

I am currently a graduate student at the University of Manitoba and I am conducting this survey as part of the research section of my thesis. This survey has been financed by the University of Manitoba and the Canadian Consumer Council. Your help in filling out this questionnaire would be greatly appreciated by all concerned.

I ask your cooperation in answering these questions as completely and honestly as possible. Please do not pause for any length of time on any one question. It is important that you indicate the first answer which comes into your mind.

All of these questions are concerned with food. Therefore I would ask you to answer these questions with respect to the food products which you usually purchase for your family. Please do not consider food products which you consume away from your home at a restaurant or at the home of a friend.

These questionnaires are numbered in order to compute statistical tests on the aggregate responses. These questionnaires will be treated as STRICTLY CONFIDENTIAL. Therefore I would ask that you do not sign the questionnaire. At no time will any effort be made to identify any respondent.

I would like to thank you for your cooperation in this matter. I would hope above all else that the results of this research will do well to further all of our interests as consumers.

Respectfully yours,

A handwritten signature in cursive script, appearing to read "Alex Pursaga".

Alex Pursaga
Graduate Assistant

AP/ww

Enclosure

CONSUMER INTEREST SURVEY: FOOD

Part I

Please circle the number provided in the list following each question in order to indicate the most appropriate answer. Please do not spend too much time in answering any specific question as it is important that you report the first answer which comes into your mind.

1. In general, what is your opinion of the level of prices which you are now paying for food products. Are they:

too high	high	moderate	low	too low
5	4	3	2	1

Some products may appear to you to be higher priced than others. Below you will find a list of major food categories and the most commonly purchased elements of each category. Please indicate how you feel about the price levels for each of these elements.

2. Meat Products:

Beef:

too high	high	moderate	low	too low
5	4	3	2	1

- 3.

Pork:

too high	high	moderate	low	too low
5	4	3	2	1

- 4.

Poultry:

too high	high	moderate	low	too low
5	4	3	2	1

5. Dairy Products:

Milk:

too high	high	moderate	low	too low
5	4	3	2	1

6.

Cheese:

too high	high	moderate	low	too low
5	4	3	2	1

7.

Butter:

too high	high	moderate	low	too low
5	4	3	2	1

8. Cereal Products:

Bread:

too high	high	moderate	low	too low
5	4	3	2	1

9.

Flour:

too high	high	moderate	low	too low
5	4	3	2	1

10.

Breakfast Cereals:

too high	high	moderate	low	too low
5	4	3	2	1

11. Other Foods:

Fruits:

too high	high	moderate	low	too low
5	4	3	2	1

12.

Vegetables:

too high	high	moderate	low	too low
5	4	3	2	1

13.

Eggs:

too high	high	moderate	low	too low
5	4	3	2	1

14. Prices for most food products change over time, sometimes within a month or a year. However we are concerned with the general stability of prices. Compared to the prices which you have most recently paid for food products, how do you think food prices will be in a year from now? Will they be:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

For the following specific product areas, indicate how you expect prices next year at this time will compare to the present.

15. Meat Products:

Beef:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

- 16.

Pork:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

- 17.

Poultry:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

18. Dairy Products:

Milk:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

- 19.

Cheese:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

20.

Butter:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

21. Cereal Products:

Bread:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

22.

Flour:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

23.

Breakfast Cereals:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

24. Other Foods:

Fruits:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

25.

Vegetables:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

26.

Eggs:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

27. As closely as you can recall, indicate what the price level for all of your food purchases was a year ago in comparison to present prices. They were:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

For the following specific product areas, indicate how last year's prices compare to those of today.

28. Meat Products:

Beef:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

- 29.

Pork:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

- 30.

Poultry:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

31. Dairy Products:

Milk:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

- 32.

Cheese:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

33.

Butter:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

34. Cereal Products:

Bread:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

35.

Flour:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

36.

Breakfast Cereals:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

37. Other Foods:

Fruits:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

38.

Vegetables:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

39.

Eggs:

much higher	slightly higher	about the same	slightly lower	much lower
5	4	3	2	1

40. When you go shopping, how often are you able to locate the same products in the same places in the same stores:

never	seldom	half the time	often	always
5	4	3	2	1

41. Once you have located the product, how often can you scrutinize and select the actual products which you purchase:

never	seldom	half the time	often	always
5	4	3	2	1

42. If one store is short of stock in an item, how often are you able to obtain the item which you want at another store:

never	seldom	half the time	often	always
5	4	3	2	1

43. When you purchase a food product, how interested are you in the nutritional value of the product:

very interested	interested	doesn't matter	little interested	not at all
5	4	3	2	1

44. It is possible that the packages in which food products are sold or the chemicals used to preserve food matter can present a safety hazard to your health or the health of others in your home. How much confidence do you have that these hazards are minimized where you make food purchases:

a great deal	some	doesn't matter	little	none at all
5	4	3	2	1

45. In general do you believe that the food products which you purchase for your family are safe for use in your home and conducive to the maintenance of good health in your household:

definitely yes	slightly yes	don't know	slightly not	definitely not
5	4	3	2	1

46. How often do you purchase a food item simply because it is known to be a bargain:

never	seldom	half the time	often	always
5	4	3	2	1

47. When you are shopping, how often are you influenced in making a purchase by your:

Spouse:

never	seldom	half the time	often	always
5	4	3	2	1

48.

Children:

never	seldom	half the time	often	always
5	4	3	2	1

49.

Parents:

never	seldom	half the time	often	always
5	4	3	2	1

50.

Others:

never	seldom	half the time	often	always
5	4	3	2	1

51. When you purchase a food item, how often do you do so as a result of:

Conversations held with friends:

never	seldom	half the time	often	always
5	4	3	2	1

52.

Comparison shopping:

never	seldom	half the time	often	always
5	4	3	2	1

53.

Impulsive appeals from displays:

never	seldom	half the time	often	always
5	4	3	2	1

54.

Advertisements:

never	seldom	half the time	often	always
5	4	3	2	1

55. In general how do you feel about the amount of advertising on:

Television:

too much	much	adequate	little	too little
5	4	3	2	1

56.

Radio:

too much	much	adequate	little	too little
5	4	3	2	1

57.

Newspapers:

too much	much	adequate	little	too little
5	4	3	2	1

58.

Mail:

too much	much	adequate	little	too little
5	4	3	2	1

59.

Magazines:

too much	much	adequate	little	too little
5	4	3	2	1

60. In general how often do you feel that the claims made in advertisements are truthful when the advertisement is presented on:

Television:

never	seldom	half the time	often	always
5	4	3	2	1

61.

Radio:

never	seldom	half the time	often	always
5	4	3	2	1

62.

Newspapers:

never	seldom	half the time	often	always
5	4	3	2	1

63.

Mail:

never	seldom	half the time	often	always
5	4	3	2	1

64.

Magazines:

never	seldom	half the time	often	always
5	4	3	2	1

65. How often would you estimate that you are fooled by advertising claims:

never	seldom	half the time	often	always
5	4	3	2	1

66. How often have you noticed something which was a potential safety hazard in a food product:

never	seldom	half the time	often	always
5	4	3	2	1

67. When this has happened, how often have you returned the food product to the retailer:

never	seldom	half the time	often	always
5	4	3	2	1

68. How often has the store either replaced the food product or refunded the purchase price:

never	seldom	half the time	often	always
5	4	3	2	1

69. How often have you complained directly to the manufacturer:

never	seldom	half the time	often	always
5	4	3	2	1

70. How often has the manufacturer either replaced the food product or refunded the purchase price:

never	seldom	half the time	often	always
5	4	3	2	1

71. What is the general attitude of the employees whom you face when you encounter this type of problem? They are:

very indignant	annoyed	tolerant	polite	polite and helpful
5	4	3	2	1

72. How often do you find new products on the shelves when you go shopping:

never	seldom	half the time	often	always
5	4	3	2	1

73. How often do you purchase these new products in order to try them out:

never	seldom	half the time	often	always
5	4	3	2	1

74. As far as you know, how often are these new products merely new brands of older and more established products:

never	seldom	half the time	often	always
5	4	3	2	1

75. How often are these new products entirely new items which you could not recall prior to their introduction:

never	seldom	half the time	often	always
5	4	3	2	1

76. In general, at how many different stores or chains of stores are you able to make your food purchases:

a great many	many	several	few	very few
5	4	3	2	1

77. How often are you able to pay a lower price for a product merely by going to another store:

never	seldom	half the time	often	always
5	4	3	2	1

78. How easy is it for you to commute between stores in order to comparison shop:

very easy	easy	moderate	hard	very hard
5	4	3	2	1

79. How efficient do you believe the farm community is in producing food products that satisfy your demands as a consumer:

very efficient	efficient	adequate	inefficient	very inefficient
5	4	3	2	1

80. How efficient do you believe the distribution system is in delivering the foods which you consume to the food retailers:

very efficient	efficient	adequate	inefficient	very inefficient
5	4	3	2	1

81. How efficient do you believe the manufacturers are in producing the food products which you consume:

very efficient	efficient	adequate	inefficient	very inefficient
5	4	3	2	1

82. How efficiently do you believe that prices are established:

very efficient	efficient	adequate	inefficient	very inefficient
5	4	3	2	1

83. How easy is it for you to compare products in order for you to determine the best or lowest price:

very easy	slightly easy	moderate	slightly difficult	very difficult
5	4	3	2	1

84. How do you regard the profits that are earned by the various people and organizations involved in producing and delivering food to the market:

Retail Stores:

too high	high	moderate	low	too low
5	4	3	2	1

85.

Wholesalers and Distributors:

too high	high	moderate	low	too low
5	4	3	2	1

86.

Processors and Manufacturers:

too high	high	moderate	low	too low
5	4	3	2	1

87.

Farmers:

too high	high	moderate	low	too low
5	4	3	2	1

88.

Credit Agencies:

too high	high	moderate	low	too low
5	4	3	2	1

89. Many of our food products are graded according to federal standards which are established in order to standardize the quality of the products. When you encounter a graded product, how often are you able to determine exactly what the grade means in terms of product specifications:

never	seldom	half the time	often	always
5	4	3	2	1

90. How often are grading standards important considerations in making food purchases:

never	seldom	half the time	often	always
5	4	3	2	1

91. How often are you likely to equate high price with high quality:

never	seldom	half the time	often	always
5	4	3	2	1

92. Do you feel that your interests as a consumer are represented in the formulation of national policies:

never	seldom	half the time	often	always
5	4	3	2	1

93. Do you feel that your interests as a consumer are represented in the formulation of provincial policies:

never	seldom	half the time	often	always
5	4	3	2	1

94. Do you feel that the large food retailing companies are mindful of your interests:

never	seldom	half the time	often	always
5	4	3	2	1

95. Do you feel that food distributors are mindful of your interests:

never	seldom	half the time	often	always
5	4	3	2	1

96. Do you feel that food manufacturers are mindful of your interests:

never	seldom	half the time	often	always
5	4	3	2	1

97. Do you feel that farmers are mindful of your interests:

never	seldom	half the time	often	always
5	4	3	2	1

Part II

We would like you to think for a minute about the answers which you have provided to the preceding questions. We would like you to try to remember the way that you felt about the questions rather than the actual answers which you gave. Below you will find a set of "interest thermometers" on which you will be asked to indicate, by way of a check mark, the importance of several factors which you have already answered questions about. We would like you to imagine how you would feel about these questions as if you were about to set out on a shopping trip. Please check the level of interest or importance of these factors as they apply to yourself.

When I go shopping: the price level is

98. Unimportant

-100	-75	-50	-25	0	+25	+50	+75	+100
1	2	3	4	5	6	7	8	9

 Important

: the possibility that I can make a real and meaningful choice among many different food products is

99. Unimportant

-100	-75	-50	-25	0	+25	+50	+75	+100
1	2	3	4	5	6	7	8	9

 Important

: the stability of prices is

100. Unimportant

-100	-75	-50	-25	0	+25	+50	+75	+100
1	2	3	4	5	6	7	8	9

 Important

: whether or not we have a competitive environment for foodstuffs is

101. Unimportant

-100	-75	-50	-25	0	+25	+50	+75	+100
1	2	3	4	5	6	7	8	9

 Important

: the availability of product is

102. Unimportant

<u>-100</u>	<u>-75</u>	<u>-50</u>	<u>-25</u>	<u>0</u>	<u>+25</u>	<u>+50</u>	<u>+75</u>	<u>+100</u>
1	2	3	4	5	6	7	8	9

 Important

: efficiency in production is

103. Unimportant

<u>-100</u>	<u>-75</u>	<u>-50</u>	<u>-25</u>	<u>0</u>	<u>+25</u>	<u>+50</u>	<u>+75</u>	<u>+100</u>
1	2	3	4	5	6	7	8	9

 Important

: efficiency in distribution is

104. Unimportant

<u>-100</u>	<u>-75</u>	<u>-50</u>	<u>-25</u>	<u>0</u>	<u>+25</u>	<u>+50</u>	<u>+75</u>	<u>+100</u>
1	2	3	4	5	6	7	8	9

 Important

: efficiency in price setting is

105. Unimportant

<u>-100</u>	<u>-75</u>	<u>-50</u>	<u>-25</u>	<u>0</u>	<u>+25</u>	<u>+50</u>	<u>+75</u>	<u>+100</u>
1	2	3	4	5	6	7	8	9

 Important

: the nutritive value and safety of the product are

106. Unimportant

<u>-100</u>	<u>-75</u>	<u>-50</u>	<u>-25</u>	<u>0</u>	<u>+25</u>	<u>+50</u>	<u>+75</u>	<u>+100</u>
1	2	3	4	5	6	7	8	9

 Important

: the physical safety of the product is

107. Unimportant

<u>-100</u>	<u>-75</u>	<u>-50</u>	<u>-25</u>	<u>0</u>	<u>+25</u>	<u>+50</u>	<u>+75</u>	<u>+100</u>
1	2	3	4	5	6	7	8	9

 Important

: information about the product is

108. Unimportant

<u>-100</u>	<u>-75</u>	<u>-50</u>	<u>-25</u>	<u>0</u>	<u>+25</u>	<u>+50</u>	<u>+75</u>	<u>+100</u>
1	2	3	4	5	6	7	8	9

 Important

: the ability to voice my grievances and to get quick replacement of products which are tainted is

109. Unimportant

<u>-100</u>	<u>-75</u>	<u>-50</u>	<u>-25</u>	<u>0</u>	<u>+25</u>	<u>+50</u>	<u>+75</u>	<u>+100</u>
1	2	3	4	5	6	7	8	9

 Important

: the quality of the product is

110. Unimportant

<u>-100</u>	<u>-75</u>	<u>-50</u>	<u>-25</u>	<u>0</u>	<u>+25</u>	<u>+50</u>	<u>+75</u>	<u>+100</u>
1	2	3	4	5	6	7	8	9

 Important

: the ability to have my demands reckoned with by large corporations and governments is

111. Unimportant

-100	-75	-50	-25	0	+25	+50	+75	+100
1	2	3	4	5	6	7	8	9

 Important

Please indicate which of these areas is the most crucial to you in formulating your shopping goals. Please rank these categories by placing the numbers between 1 and 14 next to each of these areas. In case some of the areas appear to be of approximately equal importance please endeavour to pick that one which is the most important and assign it the highest rank. Beginning with the number 1 choose the most important area below:

- 112. Price Level _____
- 113. Meaningful Choice _____
- 114. Price Stability _____
- 115. Competitive
Environment _____
- 116. Product Availability _____
- 117. Efficient
Production _____
- 118. Efficient
Distribution _____
- 119. Efficient Pricing _____
- 120. Nutritive Safety _____
- 121. Physical Safety _____
- 122. Information _____
- 123. Ability to Voice
Grievances _____
- 124. Quality _____
- 125. Representation _____

Part III

The following information is required in order to make comparisons between different groups of people. ALL INFORMATION WILL BE HELD IN THE STRICTEST CONFIDENCE. Results will only be issued in aggregate form and then only as part of the research for my thesis.

126. Please indicate the sex of the person answering the questionnaire. If several of you have worked on this task, please indicate the sex of the person who has spent the most time on this task.

Male 1 Female 2

127. Please indicate the age range into which the person answering this questionnaire belongs:

0-14 15-24 25-34 35-44 45-54 55-64 65 and over
1 2 3 4 5 6 7

128. How many people are a part of your household?

1 2 3 4 5 6 7 8 9 or more

129. Of the members of your household how many earn an income?

1 2 3 4 5 6 7 8 9 or more

130. How large is the combined income on an annual basis from all of the members of your household?

\$0-2999 \$3000-5999 \$6000-8999 \$9000-11999
1 2 3 4

\$12000-14999 \$15000-17999 Over \$18000

131. Approximately what percentage of this income is saved or invested?

0-5% 6-10% 11-15% 16-20% 21-25% 26-30% 31-35% 36-40% over 40%
1 2 3 4 5 6 7 8 9

132. In the last five years how has your income level moved? It has:

Fallen 1 Remained the Same 2 Risen 3

133. Over this same period how has the cost of living for your family moved?
It has:

Fallen 1 Remained the Same 2 Risen 3

134. How many credit cards do you hold?

1 2 3 4 5 6 7 8 9 or more

135. How often do you use your credit accounts in financing food purchases?

Never Seldom Half the Time Often Always
5 4 3 2 1

136. Do you own a car? Yes 1 No 2

137. Do you use public transportation to commute? Yes 1 No 2

138. Do you save and use coupons from newspapers, mail brochures, catalogues, etc.?

Yes 1 No 2

139. Do you follow a formal budget? Yes 1 No 2 If you do, how often
often are you able to keep it?

140. Never Seldom Half the Time Often Always Not
5 4 3 2 1 Applicable
0

141. Please indicate the level of education which the head of the household
or principle wage earner has attained:

1-6 7-9 10-12 University Trade School
1 2 3 4 5

142. Are you employed? Yes 1 No 2

143. Please indicate your occupational grouping from the list below:

- (1) Practising professional: doctor, lawyer, teacher, etc. _____
- (2) Academic professional: scientist, university professor,
researcher, reporter, etc. _____
- (3) Tradesman: carpenter, plumber, mason, etc. _____
- (4) Skilled or semi-skilled laborer: clerk, office
employee, etc. _____
- (5) Businessman: self-employed, manager, executive, etc. _____
- (6) Housewife _____
- (7) Student _____
- (8) None of the above _____

APPENDIX B

DEFINITIONS OF STATISTICAL TESTS APPLIED TO THE QUESTIONNAIRE RESULTS IN ORDER TO DETERMINE THE VALIDITY AND RELIABILITY OF THE RESPONSES

Measuring Skewness

The skewness of a distribution is found by taking the third power of the difference between the observed value and its mean averaged over the sample size. The coefficient of skewness is then computed by dividing this cubed difference by the product of the variance and standard deviation.^{1/} The sample estimate is:

$$g_1 = m_3 / (m_2 \sqrt{m_2})$$

Where:

g_1 is the sample coefficient of variance;
 $m_3 = \sum (X - \bar{X})^3 / n$ is the cubed difference between the observed value and the mean; and
 $m_2 = \sum (X - \bar{X})^2 / n$ is the variance, the square root of which is the standard deviation.

If there are a sufficient number of values greater than the mean, the coefficient will be positive and if compared to a theoretical distribution may in fact be significant. A sufficient number of observations less than the mean will result in a negative coefficient which can also be compared to the theoretical distribution.

Measuring the Sampling Error of the Mean

The sampling error of the mean under the approach of stratified random sampling is defined as:

$$S(\bar{y}_{st}) = \sqrt{\frac{\sum W_h^2 S_h^2 (1 - f_h)}{N}}$$

Where:

$S(\bar{y}_{st})$ is the sampling error of the mean;

^{1/} Snedocor and Cochran (65:86)

$W_h = \frac{N_h}{N}$ where N_h is the number of valid responses

in stratum h and N is the total number of valid responses;

S_h^2 is the variance of the mean of y in stratum h ; and

$\phi_h = \frac{N_h}{N_p}$ where N_p is the total number of possible

responses which implies that ϕ_h is the sampling function.

The larger is the sampling error of the mean the less reliable is the survey.^{2/}

Measuring the Design Effect on the Mean

The design effect on the mean is defined as:^{3/}

$$D = \frac{S_c \bar{y}^2}{S_{srs} \bar{y}^2}$$

Where:

D is the design effect;

$S_c \bar{y}^2$ is the variance of the mean of y from the stratified sample; and

$S_{srs} \bar{y}^2$ is the variance of the mean of y derived from a simple random sample of equal size.

For samples which are distributed approximately normal the relationship between the sampling error of the mean and the design effect on the mean is:^{4/}

$$D = \frac{1}{4} \frac{Se^2 N}{Var(y)}$$

Where:

Se^2 is the sampling error of the mean of y ; and all other variables as above.

The smaller the value of the design effect D the more efficient the sample design.

^{2/} Ibid., (65:522)

^{3/} Lansing and Morgan (41:87)

^{4/} Ibid., (41:89)

APPENDIX C

DESCRIPTIVE STATISTICS OF RESPONSES C.1 TOTAL SAMPLE

Question (Number)	Number of Valid Responses	Mean	Variance	Skewness	Sampling Error of the Mean	Design Effect on the Mean
General Current Price Level (1)	107	4.430	0.379	-0.327	.0387	.1058
Current Prices: Beef (2)	107	4.664	0.282	-0.163	.0333	.1051
Current Prices: Pork (3)	103	4.495	0.468	-0.118	.0428	.1010
Current Prices: Poultry (4)	108	3.907	0.758	-0.162	.0529	.0996
Current Prices: Milk (5)	108	3.870	0.712	-0.033	.0517	.1014
Current Prices: Cheese (6)	108	3.704	0.547	0.530*	.0446	.0980
Current Prices: Butter (7)	104	4.173	0.533	-0.277	.0461	.1038
Current Prices: Bread (8)	108	3.824	0.726	-0.204	.0516	.0990
Current Prices: Flour (9)	104	3.519	0.582	-0.131	.0445	.0885
Current Prices: Breakfast Cereals (10)	102	3.951	0.720	-0.200	.0548	.1065
Current Prices: Fruit (11)	109	3.651	0.563	0.400*	.0441	.0942
Current Prices: Vegetables (12)	109	3.459	0.677	0.484*	.0491	.0969
Current Prices: Eggs (13)	108	4.389	0.516	-0.129	.0479	.1074
General Future Price Level (14)	102	4.187	0.853	-0.124	.0624	.1166
Future Prices: Beef (15)	108	3.861	1.018	-0.307	.0600	.0953
Future Prices: Pork (16)	105	3.695	1.022	0.101	.0594	.0917
Future Prices: Poultry (17)	108	3.657	0.825	-0.474*	.0556	.1013
Future Prices: Milk (18)	108	3.833	0.495	-0.404*	.0433	.1021
Future Prices: Cheese (19)	109	3.789	0.464	-0.066	.0402	.0951

APPENDIX C.1 (Continued)

Question (Number)	Number of Valid Responses	Mean	Variance	Skewness	Sampling Error of the Mean	Design Effect on the Mean
Future Prices: Butter (20)	107	3.813	0.550	-0.108	.0436	.0924
Future Prices: Bread (21)	109	3.954	0.507	-0.378	.0435	.0972
Future Prices: Flour (22)	107	3.860	0.461	-0.004	.0395	.0904
Future Prices: Breakfast Cereals (23)	102	3.716	0.463	0.039	.0445	.1093
Future Prices: Fruit (24)	109	3.606	0.519	0.149	.0421	.0931
Future Prices: Vegetables (25)	109	3.450	0.528	0.355	.0431	.0957
Future Prices: Eggs (26)	108	3.620	0.855	-0.320	.0536	.0907
General Past Price Level (27)	104	2.000	1.767	0.129	.0789	.0916
Past Prices: Beef (28)	107	2.037	2.395	0.118	.0922	.0950
Past Prices: Pork (29)	105	2.029	2.163	0.120	.0868	.0914
Past Prices: Poultry (30)	108	2.361	1.691	0.471*	.0766	.0937
Past Prices: Milk (31)	108	2.407	1.970	0.491*	.0654	.0965
Past Prices: Cheese (32)	109	2.569	1.044	0.424*	.0617	.0995
Past Prices: Butter (33)	105	2.400	1.127	0.100	.0631	.0928
Past Prices: Bread (34)	109	2.450	1.157	0.316	.0659	.1024
Past Prices: Flour (35)	105	2.476	0.906	0.506*	.0581	.0979
Past Prices: Breakfast Cereals (36)	109	2.621	0.865	0.318	.0592	.1044
Past Prices: Fruit (37)	105	2.624	0.885	0.410*	.0555	.0948
Past Prices: Vegetables (38)	103	2.651	0.896	0.349	.0558	.0946
Past Prices: Eggs (39)	109	2.000	1.869	0.114	.0003	.0932

APPENDIX C.1 (Continued)

Question(Number)	Number of Valid Responses	Mean	Variance	Skewness	Sampling Error of the Mean	Design Effect on the Mean
Consistency of Product						
Location(40)	108	1.935	0.528	0.112	.0420	.0903
Selection(41)	101	1.842	0.655	0.364	.0455	.0798
Other Store Availability(42)	109	2.330	0.964	0.217	.0579	.0948
Interest in Nutrition(43)	108	4.130	1.142	-0.118	.0601	.0854
Confidence in Safety Standards(44)	108	3.861	1.186	-0.103	.0676	.1039
General Confidence in Food(45)	108	4.176	0.931	-0.129	.0511	.0758
Bargain Purchasing(46)	109	3.321	1.090	-0.372	.0585	.0857
Purchase Influence:Spouse(47)	104	3.250	1.782	-0.046	.0803	.0941
Purchase Influence:Children(48)	97	4.268	1.011	-0.129	.0643	.0990
Purchase Influence:Parents(49)	96	4.500	0.779	-0.217	.0503	.0778
Purchase Influence:Others(50)	104	4.212	0.712	-0.148	.0464	.0787
Purchase Due to:Conversations with Friends(51)	109	3.798	0.644	-0.113	.0446	.0842
Purchase Due to:Comparison Shopping(52)	107	2.757	1.318	0.372	.0684	.0950
Purchase Due to:Displays(53)	108	4.056	0.614	-0.115	.0454	.0908
Purchase Due to:Ads(54)	109	3.798	0.644	-0.124	.0463	.0906
Truth of Ads: Television(55)	107	4.299	0.985	-0.120	.0559	.0849
Truth of Ads: Radio(56)	108	4.037	1.288	-0.443*	.0690	.0998

APPENDIX C.1 (Continued)

Question (Number)	Number of Valid Responses	Mean	Variance	Skewness	Sampling Error of the Mean	Design Effect on the Mean
Truth of Ads: Newspapers (57)	109	3.771	1.067	-0.239	.0612	.0956
Truth of Ads: Mail (58)	107	3.850	1.543	-0.394*	.0740	.0949
Truth of Ads: Magazines (59)	106	3.934	1.224	-0.217	.0652	.0919
Amount of Ads: Television (60)	106	3.491	0.690	-0.020	.0490	.0923
Amount of Ads: Radio (61)	105	3.400	0.781	0.054	.0506	.0861
Amount of Ads: Newspapers (62)	107	3.047	0.932	0.349	.0544	.0849
Amount of Ads: Mail (63)	107	3.374	0.934	-0.112	.0549	.0864
Amount of Ads: Magazines (64)	107	3.299	0.872	0.142	.0536	.0881
Frequency of Deception in Advertisements (65)	109	3.716	0.724	-0.105	.0452	.0770
Frequency of Potential Safety Hazard Discovery (66)	107	4.019	0.528	-0.121	.0385	.0752
Complaint to Retailer (67)	105	3.152	2.803	-0.205	.1042	.1017
Restitution by Retailer (68)	99	2.131	2.748	0.101	.0985	.0875
Complaint to Manufacturer (69)	105	4.467	0.867	-0.198	.0550	.0915
Restitution by Manufacturer (70)	88	3.625	3.302	-0.235	.1206	.0999
Attitude of Employees (71)	89	2.101	1.319	0.252	.0750	.0948
Frequency of New Product Discovery (72)	109	2.807	0.898	0.064	.0569	.0981
Experimental Purchasing (73)	109	3.670	0.594	-0.106	.0464	.0989

APPENDIX C.1 (Continued)

Question (Number)	Number of Valid Responses	Mean	Variance	Skewness	Sampling Error of the Mean	Design Effect on the Mean
Frequency of New Brand(74)	105	2.638	1.060	0.373	.0591	.0864
Frequency of an Entirely New Product(75)	105	3.362	0.925	-0.341	.0572	.0930
Number of Stores Shopped(76)	107	3.206	1.259	-0.210	.0697	.1033
Base of Store Comparison(77)	105	2.790	1.052	0.266	.0626	.0977
Base of Commuting in order to Comparison Shop(78)	105	3.276	1.163	-0.150	.0644	.0935
Efficiency of Farmers(79)	105	3.495	0.675	0.328	.0498	.0964
Efficiency of Distribution(80)	104	3.240	0.845	-0.115	.0538	.0890
Efficiency of Manufacture(81)	105	3.438	0.614	-0.095	.0466	.0930
Efficiency of Pricing(82)	104	2.442	1.201	0.510*	.0665	.0957
Base of Price Comparison(83)	107	2.785	1.755	0.277	.0813	.1007
Profits:Retailers(84)	106	3.840	0.517	0.246	.0422	.0911
Profits:Wholesalers and Distributors(85)	106	4.057	0.473	-0.072	.0417	.0972
Profits:Manufacturers(86)	107	4.056	0.657	-0.316	.0585	.0957
Profits:Farmers(87)	107	2.533	0.893	0.310	.0554	.0918
Profits:Credit Agencies(88)	103	4.333	0.573	-0.412*	.0467	.0980
Knowledge of Grades(89)	107	2.850	1.128	0.348	.0651	.1004
Importance of Grades(90)	107	2.458	0.968	0.256	.0566	.0886
Price/Quality Equation(91)	107	2.654	0.964	0.315	.0587	.0956

APPENDIX C.1 (Continued)

Question (Number)	Number of Valid Responses	Mean	Variance	Skewness	Sampling Error of the Mean	Design Effect on the Mean
Interest Responsiveness: National Government (92)	106	3.538	0.822	-0.498*	.0544	.0954
Interest Responsiveness: Provincial Government (93)	106	3.509	0.748	-0.473*	.0531	.1000
Interest Responsiveness: Retailers (94)	108	3.444	1.090	-0.223	.0615	.0938
Interest Responsiveness: Distributors (95)	106	3.585	0.912	-0.343	.0685	.0993
Interest Responsiveness: Manufacturers (96)	104	3.317	1.151	-0.230	.0663	.0993
Interest Responsiveness: Farmers (97)	105	3.133	1.347	0.035	.0721	.1012
Importance: Price Level (98)	103	7.709	2.130	-1.862**	.0994	.1194
Importance: Meaningful Choice (99)	103	7.505	3.096	-1.761**	.1076	.0963
Importance: Price Stability (100)	103	7.485	3.409	-1.559**	.1125	.0956
Importance: Competitive Environment (101)	103	7.379	3.630	-1.218**	.1241	.1092
Importance: Product Availability (102)	104	7.942	1.045	-1.035**	.0645	.1034
Importance: Production Efficiency (103)	104	7.683	2.549	-1.673**	.0980	.0980

APPENDIX C.1(Continued)

Question(Number)	Number of Valid Responses	Mean	Variance	Skewness	Sampling Error of the Mean	Design Effect on the Mean
Importance:Distribution Efficiency(104)	104	7.846	1.704	-1.265**	.0847	.1018
Importance:Pricing Efficiency(105)	104	8.087	1.730	-2.295**	.0772	.0396
Importance:Nutritive Value(106)	104	8.279	1.446	-2.704**	.0695	.0869
Importance:Physical Safety(107)	104	8.337	1.449	-2.918**	.0693	.0861
Importance:Information(108)	104	7.981	1.534	-2.028**	.0698	.0826
Importance:Ability to Voice Grievances(109)	104	8.038	2.523	-2.283**	.1000	.1031
Importance:Quality(110)	104	8.567	0.481	-1.472**	.0416	.0936
Importance:Representation(111)	102	7.618	2.932	-1.522**	.1076	.1008
Priority:Price Level(112)	100	3.060	6.684	1.820**	.1713	.1082
Priority:Meaningful Choice(113)	97	6.237	7.704	0.423*	.1788	.1006
Priority:Price Stability(114)	97	5.753	10.501	0.860**	.2086	.1005
Priority:Competitive Environment(115)	95	9.168	11.950	-0.043	.2371	.1117
Priority:Product Availability(116)	98	6.133	8.776	0.654**	.1889	.0996
Priority:Production Efficiency(117)	95	9.295	6.487	-0.531**	.1692	.1048

APPENDIX C.1 (Continued)

Question (Number)	Number of Valid Responses	Mean	Variance	Skewness	Sampling Error of the Mean	Design Effect on the Mean
Priority: Distribution						
Efficiency (118)	95	10.337	4.992	-0.888**	.1453	.1005
Priority: Pricing						
Efficiency (119)	95	8.305	10.299	-0.251	.2101	.1013
Priority: Nutritive Value (120)	98	4.918	10.550	0.705**	.2185	.1109
Priority: Physical Safety (121)	98	6.408	14.512	0.353	.2656	.1191
Priority: Information (122)	97	9.000	13.229	-0.501*	.2452	.1102
Priority: Ability to Voice						
Grievances (123)	95	10.832	7.227	-0.923**	.1752	.1008
Priority: Quality (124)	100	3.220	7.345	1.483**	.1693	.0975
Priority: Representation (125)	94	12.064	6.921	-1.381**	.1748	.1037
Sex (126)	108	1.556	0.259	-0.224	.0306	.1016
Age (127)	108	3.630	1.637	0.683	.0699	.0805
Number of Family Members (128)	109	3.193	2.842	0.755**	.0931	.0831
Number of Income Earners (129)	109	1.431	0.488	0.131	.0418	.0974
Income (130)	107	4.234	3.672	0.093	.0979	.0698
Savings/Investment (131)	98	2.939	4.553	1.482**	.1343	.0970
Assessment of Income Change (132)	108	2.704	0.379	-1.901**	.0314	.0701
Assessment of Cost of						
Living Change (133)	106	2.943	0.092	-5.602**	.0184	.0974

APPENDIX C.1 (Continued)

Question (Number)	Number of Valid Responses	Mean	Variance	Skewness	Sampling Error of the Mean	Design Effect on the Mean
Number of Credit Cards (134)	109	3.523	9.937	0.480	.1696	.0789
Use of Credit for Food (135)	109	4.752	0.614	-4.642**	.0453	.0912
Car Ownership (136)	107	1.187	0.153	1.606**	.0169	.0522
Use of Public Transport for Commuting (137)	106	1.585	0.245	-0.345	.0275	.0817
Use of Coupons (138)	106	1.283	0.205	0.963**	.0274	.0970
Keeping a Formal Budget (139)	106	1.642	0.232	-0.590**	.0297	.1009
Faithful Use of a Formal Budget (140)	109	0.963	2.017	1.195**	.0881	.1049
Education (141)	107	3.458	0.741	-0.850**	.0465	.0781
Employment Status (142)	106	1.311	0.216	0.815**	.0276	.0936
Occupation (143)	106	3.906	5.248	0.135	.1475	.1098

APPENDIX C

DESCRIPTIVE STATISTICS OF RESPONSES C.2 WINNIPEG BUYERS CLUB SAMPLE

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
General Current Price Level (1)	22	4.818	5.000	0.156	-1.650**
Current Prices: Beef (2)	22	4.864	5.000	0.123	-2.120**
Current Prices: Pork (3)	22	4.773	5.000	0.184	-1.303**
Current Prices: Poultry (4)	22	4.136	4.000	0.600	-0.232
Current Prices: Milk (5)	22	3.955	4.000	0.522	0.064
Current Prices: Cheese (6)	23	4.043	4.000	0.498	-0.057
Current Prices: Butter (7)	21	4.286	5.000	0.614	-0.534
Current Prices: Bread (8)	23	4.174	4.000	0.514	-0.255
Current Prices: Flour (9)	23	3.957	4.000	0.407	0.030
Current Prices: Breakfast Cereals (10)	20	4.000	4.000	0.526	0.000
Current Prices: Fruit (11)	23	3.826	3.000	0.605	0.303
Current Prices: Vegetables (12)	23	3.696	3.000	0.676	0.604
Current Prices: Eggs (13)	23	4.609	5.000	0.431	-1.396**
General Future Price Level (14)	21	4.478	5.000	0.625	-1.623**
Future Prices: Beef (15)	22	3.909	5.000	1.420	-0.860*
Future Prices: Pork (16)	22	3.864	5.000	1.552	-0.494
Future Prices: Poultry (17)	22	3.909	3.000	0.848	-0.195
Future Prices: Milk (18)	22	4.045	4.000	0.712	-1.058*
Future Prices: Cheese (19)	23	4.130	4.000	0.482	-1.000*
Future Prices: Butter (20)	22	4.136	4.000	0.885	-0.975*

APPENDIX C.2 (Continued)

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Future Prices: Bread (21)	23	4.130	4.000	0.846	-0.976*
Future Prices: Flour (22)	23	4.087	4.000	0.719	-0.620
Future Prices: Breakfast Cereals (23)	20	3.800	4.000	0.589	-0.372
Future Prices: Fruit (24)	23	3.652	3.000	0.874	0.058
Future Prices: Vegetables (25)	23	3.522	3.000	0.806	0.319
Future Prices: Eggs (26)	23	4.043	5.000	0.953	-0.687
General Past Price Level (27)	22	2.455	1.000	2.746	0.663
Past Prices: Beef (28)	22	2.591	1.000	3.587	0.394
Past Prices: Pork (29)	22	2.591	1.000	3.396	0.436
Past Prices: Poultry (30)	22	2.818	2.000	2.537	0.376
Past Prices: Milk (31)	22	2.727	2.000	1.732	0.518
Past Prices: Cheese (32)	23	2.783	2.000	1.632	0.416
Past Prices: Butter (33)	21	2.476	2.000	1.762	0.644
Past Prices: Bread (34)	23	2.696	2.000	1.585	0.454
Past Prices: Flour (35)	23	2.565	2.000	1.621	0.454
Past Prices: Breakfast Cereals (36)	23	2.810	2.000	1.262	0.599
Past Prices: Fruit (37)	21	2.826	2.000	1.241	0.348
Past Prices: Vegetables (38)	20	2.957	3.000	1.316	0.270
Past Prices: Eggs (39)	23	2.391	1.000	2.885	0.617
Consistency of Product Location (40)	22	2.045	2.000	1.188	1.264**
Selection (41)	21	2.333	2.000	1.033	0.466

APPENDIX C.2 (Continued)

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Other Store Availability(42)	23	2.522	2.000	1.170	0.604
Interest in Nutrition(43)	23	4.304	5.000	1.221	-1.246**
Confidence in Safety Standards(44)	22	3.636	4.000	1.671	-0.782*
General Confidence in Food(45)	23	3.609	5.000	1.522	-0.404
Bargain Purchasing(46)	23	2.783	4.000	1.451	-0.052
Purchase Influence:Spouse(47)	22	3.455	5.000	2.069	-0.251
Purchase Influence:Children(48)	21	4.095	5.000	1.390	-1.124**
Purchase Influence:Parents(49)	21	4.429	5.000	1.357	-1.865**
Purchase Influence:Others(50)	22	4.182	5.000	1.399	-1.548**
Purchase Due to:Conversations with Friends(51)	23	3.652	4.000	1.237	-0.899*
Purchase Due to:Comparison Shopping(52)	22	2.636	2.000	1.861	0.340
Purchase Due to:Displays(53)	22	4.590	5.000	0.357	-0.685
Purchase Due to:Ads(54)	23	3.913	4.000	0.901	-1.457**
Truth of Ads:Television(55)	23	4.217	5.000	1.723	-1.273**
Truth of Ads:Radio(56)	23	4.304	5.000	1.494	-1.518**
Truth of Ads:Newspapers(57)	23	4.130	5.000	1.573	-1.098**
Truth of Ads:Mail(58)	22	3.727	5.000	1.932	-0.485
Truth of Ads:Magazines(59)	22	3.727	5.000	1.827	-0.674

APPENDIX C.2 (Continued)

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Amount of Ads:Television(60)	22	3.864	5.000	0.981	-0.327
Amount of Ads:Radio(61)	22	3.909	5.000	1.134	-0.544
Amount of Ads:Newspapers(62)	22	3.682	4.000	1.275	-0.364
Amount of Ads:Mail(63)	22	4.000	4.000	0.857	-0.737*
Amount of Ads:Magazines(64)	22	3.955	4.000	0.903	-0.592
Frequency of Deception in Advertisements(65)	23	3.261	4.000	1.565	-0.364
Frequency of Potential Safety Hazard Discovery(66)	22	3.682	4.000	1.180	-0.481
Complaint to Retailer(67)	22	3.818	4.000	1.394	-0.886*
Restitution by Retailer(68)	21	2.762	1.000	2.890	0.319
Complaint to Manufacturer(69)	22	4.318	5.000	1.180	-1.245**
Restitution by Manufacturer(70)	20	4.000	5.000	2.211	-1.084**
Attitude of Employees(71)	19	2.474	1.000	2.152	0.433
Frequency of New Product Discovery(72)	23	2.739	2.000	1.111	0.061
Experimental Purchasing(73)	23	3.870	4.000	0.664	-0.793*
Frequency of New Brand(74)	21	3.000	2.000	1.300	0.622
Frequency of an Entirely New Product(75)	22	3.364	4.000	1.100	-0.518
Number of Stores Shopped(76)	22	2.955	3.000	1.379	0.089
Ease of Store Comparison(77)	22	2.818	2.000	1.299	0.165
Ease of Commuting in order to Comparison Shop(78)	21	2.667	2.000	0.933	0.025

APPENDIX C.2 (continued)

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Efficiency of Farmers(79)	21	3.238	3.000	0.590	0.257
Efficiency of Distribution(80)	21	2.714	3.000	0.914	0.244
Efficiency of Manufacture(81)	22	3.045	3.000	0.807	-0.008
Efficiency of Pricing(82)	22	2.000	1.000	1.429	1.028**
Base of Price Comparison(83)	21	2.857	3.000	2.129	0.154
Profits:Retailers(84)	21	4.190	4.000	0.562	-0.312
Profits:Wholesalers and Distributors(85)	21	4.238	4.000	0.490	-0.342
Profits:Manufacturers(86)	21	4.286	5.000	0.814	-1.008*
Profits:Farmers(87)	21	2.857	3.000	1.529	0.276
Profits:Credit Agencies(88)	20	4.550	5.000	0.366	-0.927*
Knowledge of Grades(89)	21	3.000	4.000	0.900	-0.360
Importance of Grades(90)	21	2.571	2.000	0.857	0.174
Price/Quality Equation(91)	21	2.857	3.000	1.129	0.031
Interest Responsiveness:National Government(92)	21	3.857	4.000	1.129	-0.994*
Interest Responsiveness:Provincial Government(93)	20	3.700	4.000	1.063	-1.147**
Interest Responsiveness:Retailers(94)	22	3.727	4.000	1.351	-0.942*
Interest Responsiveness:Distributors(95)	21	3.667	4.000	1.233	-0.657
Interest Responsiveness:Manufacturers(96)	19	3.368	4.000	1.579	-0.557
Interest Responsiveness:Farmers(97)	20	2.800	2.000	1.326	0.187

APPENDIX C.2 (Continued)

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Importance: Price Level (98)	19	8.316	9.000	0.673	-0.627
Importance: Meaningful Choice (99)	19	7.737	9.000	3.760	-2.342**
Importance: Price Stability (100)	19	8.000	9.000	3.778	-2.659**
Importance: Competitive Environment (101)	19	7.421	9.000	2.480	-0.552
Importance: Product Availability (102)	19	8.000	8.000	0.778	-0.459
Importance: Production Efficiency (103)	19	7.474	9.000	4.485	-1.729**
Importance: Distribution Efficiency (104)	19	7.737	9.000	1.982	-1.114**
Importance: Pricing Efficiency (105)	19	8.000	9.000	4.222	-2.408**
Importance: Nutritive Value (106)	19	8.368	9.000	3.468	-3.526**
Importance: Physical Safety (107)	19	8.421	9.000	3.480	-3.593**
Importance: Information (108)	19	8.053	9.000	3.942	-2.613**
Importance: Ability to Voice Grievances (109)	19	8.105	9.000	3.988	-2.642**
Importance: Quality (110)	19	8.632	9.000	0.579	-1.623**
Importance: Representation (111)	19	8.000	9.000	3.889	-2.590**
Priority: Price Level (112)	16	1.875	1.000	1.850	1.216**
Priority: Meaningful Choice (113)	15	7.033	6.000	6.781	0.678
Priority: Price Stability (114)	16	4.000	2.000	6.667	1.128**
Priority: Competitive Environment (115)	15	10.667	14.000	8.667	-0.113
Priority: Product Availability (116)	15	7.600	8.000	7.686	0.347
Priority: Production Efficiency (117)	15	9.067	10.000	6.354	-0.493
Priority: Distribution Efficiency (118)	15	10.400	11.000	5.829	-0.457
Priority: Pricing Efficiency (119)	15	7.333	12.000	16.381	0.036
Priority: Nutritive Value (120)	15	4.667	1.000	13.667	0.748*

APPENDIX C.2 (Continued)

Question(Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Priority:Physical Safety(121)	15	4.600	3.000	6.257	0.728*
Priority:Information(122)	15	9.200	13.000	11.600	-0.323
Priority:Ability to Voice Grievances(123)	15	10.867	13.000	6.124	-0.662
Priority:Quality(124)	16	4.313	2.000	6.496	0.412
Priority:Representation(125)	15	12.067	14.000	6.924	-1.122**
Sex(126)	22	1.545	2.000	0.260	-0.183
Age(127)	22	3.955	3.000	2.426	0.773*
Number of Family Members(128)	23	3.348	2.000	5.237	0.911
Number of Income Earners(129)	23	1.000	1.000	0.364	0.000
Income(130)	22	2.318	2.000	1.656	1.032**
Savings/Investment(131)	17	1.588	1.000	0.757	1.421**
Assessment of Income Change(132)	22	2.318	3.000	0.608	-0.606
Assessment of Cost of Living Change(133)	21	3.000	3.000	0.000	0.000
Number of Credit Cards(134)	23	0.739	0.000	1.292	.776
Use of Credit for Food(135)	23	4.565	5.000	1.439	-2.985**
Car Ownership(136)	22	1.545	2.000	0.260	-0.183
Use of Public Transport for Commuting(137)	22	1.136	1.000	0.123	2.119**
Use of Coupons(138)	22	1.409	1.000	0.253	0.370
Keeping a Formal Budget(139)	21	1.571	2.000	0.257	-0.289
Faithful Use of a Formal Budget(140)	23	0.826	0.000	1.696	1.212**
Education(141)	22	2.773	3.000	1.232	0.032
Employment Status(142)	22	1.591	2.000	0.253	-0.370
Occupation(143)	22	4.091	6.000	4.372	-0.091

APPENDIX C

DESCRIPTIVE STATISTICS OF RESPONSES C.3 CONSUMERS ASSOCIATION SAMPLE

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
General Current Price Level (1)	60	4.367	5.000	0.473	-0.928**
Current Prices: Beef (2)	60	4.667	5.000	0.328	-2.045**
Current Prices: Pork (3)	58	4.483	5.000	0.500	-1.291**
Current Prices: Poultry (4)	61	3.934	4.000	0.762	-0.176
Current Prices: Milk (5)	61	4.016	5.000	0.783	-0.323
Current Prices: Cheese (6)	61	3.672	3.000	0.557	0.607*
Current Prices: Butter (7)	60	4.117	4.000	0.545	-0.185
Current Prices: Bread (8)	60	3.833	4.000	0.785	-0.407
Current Prices: Flour (9)	58	3.517	3.000	0.535	-0.332
Current Prices: Breakfast Cereals (10)	60	4.050	5.000	0.766	-0.251
Current Prices: Fruit (11)	61	3.639	3.000	0.501	0.634*
Current Prices: Vegetables (12)	61	3.410	3.000	0.646	0.685*
Current Prices: Eggs (13)	60	4.317	5.000	0.695	-1.353**
General Future Price Level (14)	60	4.017	4.000	1.000	-1.059**
Future Prices: Beef (15)	61	3.721	4.000	0.938	-0.530*
Future Prices: Pork (16)	60	3.517	4.000	0.830	-0.660*
Future Prices: Poultry (17)	61	3.557	4.000	0.851	-0.555*
Future Prices: Milk (18)	61	3.738	4.000	0.530	-0.082
Future Prices: Cheese (19)	61	3.689	4.000	0.451	0.119
Future Prices: Butter (20)	61	3.705	4.000	0.478	0.456

APPENDIX C.3 (Continued)

Question(Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Future Prices:Bread(21)	61	3.902	4.000	0.490	-0.160
Future Prices:Flour(22)	60	3.867	4.000	0.389	0.093
Future Prices:Breakfast Cereals(23)	60	3.733	4.000	0.504	0.140
Future Prices:Fruit(24)	61	3.607	4.000	0.443	0.289
Future Prices:Vegetables(25)	61	3.426	3.000	0.482	0.417
Future Prices:Eggs(26)	60	3.433	4.000	0.758	-0.182
General Past Price Level(27)	58	1.810	1.000	1.525	1.662**
Past Prices:Beef(28)	60	1.900	1.000	2.227	1.437**
Past Prices:Pork(29)	60	1.867	1.000	1.779	1.543**
Past Prices:Poultry(30)	61	2.213	2.000	1.504	1.118**
Past Prices:Milk(31)	61	2.262	2.000	1.130	1.141**
Past Prices:Cheese(32)	61	2.525	2.000	1.054	0.586*
Past Prices:Butter(33)	60	2.367	2.000	0.914	0.386
Past Prices:Bread(34)	61	2.393	2.000	1.243	0.998**
Past Prices:Flour(35)	59	2.390	2.000	0.863	0.716*
Past Prices:Breakfast Cereals(36)	61	2.617	2.000	0.884	0.830*
Past Prices:Fruit(37)	60	2.672	2.000	0.824	0.422
Past Prices:Vegetables(38)	61	2.639	2.000	0.834	0.243
Past Prices:Eggs(39)	61	1.883	1.000	1.664	1.317**
Consistency of Product Location(40)	61	1.902	2.000	0.423	0.461
Selection(41)	57	1.684	2.000	0.434	0.430

APPENDIX C.3 (Continued)

Question(Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Other Store Availability(42)	61	2.262	2.000	0.863	0.715*
Interest in Nutrition(43)	61	4.213	5.000	0.804	-1.129**
Confidence in Safety Standards(44)	61	3.836	4.000	1.306	-0.959**
General Confidence in Food(45)	61	4.344	4.000	0.530	-1.147**
Bargain Purchasing(46)	61	3.541	4.000	0.852	-0.762**
Purchase Influence:Spouse(47)	59	3.203	2.000	1.510	-0.056
Purchase Influence:Children(48)	55	4.182	5.000	1.003	-1.039**
Purchase Influence:Parents(49)	53	4.642	5.000	0.427	-1.999**
Purchase Influence:Others(50)	58	4.293	4.000	0.386	-0.282
Purchase Due to:Conversations with Friends(51)	61	3.852	4.000	0.428	-1.287**
Purchase Due to:Comparison Shopping(52)	60	2.667	2.000	1.209	0.534*
Purchase Due to:Displays(53)	61	3.967	4.000	0.532	-0.989**
Purchase Due to:Ads(54)	61	3.710	4.000	0.513	-1.009**
Truth of Ads:Television(55)	59	4.424	5.000	0.677	-1.102**
Truth of Ads:Radio(56)	61	4.016	5.000	1.283	-0.865**
Truth of Ads:Newspapers(57)	61	3.705	3.000	1.011	-0.078
Truth of Ads:Mail(58)	60	3.950	5.000	1.370	-0.734**
Truth of Ads:Magazines(59)	59	4.034	5.000	1.033	-0.664*

APPENDIX C.3 (Continued)

Question(Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Amount of Ads:Television(60)	60	3.407	4.000	0.625	-0.218
Amount of Ads:Radio(61)	59	3.288	3.000	0.622	-0.128
Amount of Ads:Newspapers(62)	60	2.883	2.000	0.749	0.226
Amount of Ads:Mail(63)	60	3.333	4.000	0.802	-0.132
Amount of Ads:Magazines(64)	60	3.150	3.000	0.774	0.157
Frequency of Deception in Advertisements(65)	61				
Frequency of Potential Safety Hazard Discovery(66)		3.787	4.000	0.437	-0.793**
Complaint to Retailer(67)	61	4.049	4.000	0.281	-1.298**
Restitution by Retailer(68)	60	2.933	1.000	2.877	0.021
Complaint to Manufacturer(69)	55	1.782	1.000	2.174	1.641**
Restitution by Manufacturer(70)	59	4.475	5.000	0.702	-1.960**
Attitude of Employees(71)	46	3.283	5.000	3.807	-0.276
Frequency of New Product Discovery(72)	50	2.000	1.000	1.184	0.768**
Experimental Purchasing(73)	61	2.803	2.000	0.861	0.146
Frequency of New Brand(74)	61	3.656	4.000	0.596	-1.298**
Frequency of an Entirely New Product(75)	59	2.475	2.000	0.471	0.926**
Number of Stores Shopped(76)	60	3.433	4.000	0.758	-1.114**
Base of Store Comparison(77)	61	3.311	3.000	1.318	-0.364
Base of Commuting in order to Comparison Shop(78)	59	2.847	2.000	0.994	0.309
	59	3.542	4.000	1.115	-0.334

Appendix C.3 (Continued)

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Efficiency of Farmers(79)	59	3.492	3.000	0.634	0.545*
Efficiency of Distribution(80)	59	3.322	3.000	0.705	-0.131
Efficiency of Manufacture(81)	59	3.525	3.000	0.564	0.036
Efficiency of Pricing(82)	57	2.474	2.000	1.218	0.590*
Ease of Price Comparison(83)	61	2.902	2.000	1.757	0.182
Profits:Retailers(84)	60	3.783	4.000	0.444	0.268
Profits:Wholesalers and Distributors(85)	60	4.083	4.000	0.451	-0.095
Profits:Manufacturers(86)	61	4.066	4.000	0.596	-0.331
Profits:Farmers(87)	61	2.508	2.000	0.754	0.052
Profits:Credit Agencies(88)	58	4.241	5.000	0.572	-0.427
Knowledge of Grades(89)	61	2.705	2.000	1.111	0.611*
Importance of Grades(90)	61	2.230	2.000	0.780	0.709*
Price/Quality Equation(91)	61	2.541	2.000	0.852	0.648*
Interest Responsiveness:National Government(92)	60	3.417	4.000	0.756	-0.444
Interest Responsiveness:Provincial Government(93)	61	3.475	4.000	0.720	0.233
Interest Responsiveness:Retailers(94)	61	3.393	3.000	0.943	0.348
Interest Responsiveness:Distributors(95)	61	3.557	4.000	0.851	-0.041
Interest Responsiveness:Manufacturers(96)	60	3.300	3.000	1.061	0.032
Interest Responsiveness:Farmers(97)	60	3.117	3.000	1.359	0.095

APPENDIX C.3(Continued)

Question(Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Importance:Price Level(98)	59	7.508	9.000	2.944	-1.729**
Importance:Meaningful Choice(99)	59	7.593	9.000	2.728	-1.624**
Importance:Price Stability(100)	59	7.661	9.000	3.159	-1.838**
Importance:Competitive Environment(101)	59	7.559	9.000	4.147	-1.451**
Importance:Product Availability(102)	60	8.033	8.000	1.050	-1.115**
Importance:Production Efficiency(103)	60	7.867	8.000	2.389	-1.803**
Importance:Distribution Efficiency(104)	60	7.983	9.000	1.678	-1.621**
Importance:Pricing Efficiency(105)	60	8.217	9.000	1.359	-1.723**
Importance:Nutritive Value(106)	60	8.350	9.000	1.045	-1.413**
Importance:Physical Safety(107)	60	8.417	9.000	1.027	-1.869**
Importance:Information(108)	60	8.083	9.000	0.973	-0.788**
Importance:Ability to Voice Grievances(109)	60	8.167	9.000	2.616	-2.478**
Importance:Quality(110)	60	8.683	9.000	0.424	-2.192**
Importance:Representation(111)	58	7.741	9.000	3.037	-1.624**
Importance:Price Level(112)	60	3.317	2.000	6.762	1.497**
Priority:Meaningful Choice(113)	58	5.983	4.000	7.070	0.307
Priority:Price Stability(114)	57	5.772	3.000	10.001	1.035**
Priority:Competitive Environment(115)	56	8.750	14.000	13.464	0.117
Priority:Product Availability(116)	59	5.898	4.000	7.507	0.838**
Priority:Production Efficiency(117)	56	8.982	9.000	6.491	-0.359
Priority:Distribution Efficiency(118)	56	10.232	10.000	4.363	-0.517*
Priority:Pricing Efficiency(119)	56	8.393	11.000	9.867	-0.207
Priority:Nutritive Value(120)	59	4.881	2.000	11.072	0.796**

APPENDIX C.3 (Continued)

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Priority:Physical Safety(121)	59	6.915	6.000	17.527	0.198
Priority:Information(122)	58	9.207	12.000	13.676	-0.642*
Priority:Ability to Voice Grievances(123)	56	11.054	13.000	6.306	-1.083**
Priority:Quality(124)	60	2.783	1.000	6.105	1.788**
Priority:Representation(125)	55	11.927	14.000	6.550	-1.377**
Sex(126)	61	1.541	2.000	0.232	-0.164
Age(127)	61	3.902	3.000	1.257	0.123
Number of Family Members(128)	61	3.492	2.000	2.087	0.267
Number of Income Earners(129)	61	1.525	1.000	0.520	2.063**
Income(130)	61	5.066	7.000	2.529	-1.334**
Savings/Investment(131)	59	3.051	2.000	3.911	1.372**
Assessment of Income Change(132)	61	2.869	3.000	0.183	-3.352**
Assessment of Cost of Living Change(133)	60	2.950	3.000	0.082	-5.996**
Number of Credit Cards(134)	61	4.852	9.000	8.523	0.082
Use of Credit for Food(135)	61	4.754	5.000	0.522	-4.948**
Car Ownership(136)	60	1.033	1.000	0.033	5.199**
Use of Public Transport for Commuting(137)	59	1.712	2.000	0.209	-0.936**
Use of Coupons(138)	60	1.250	1.000	0.191	1.155**
Keeping a Formal Budget(139)	60	1.650	2.000	0.231	-0.629*
Faithful Use of a Formal Budget(140)	61	1.033	0.000	2.322	1.183**
Education(141)	60	3.550	4.000	0.557	-0.542*
Employment Status(142)	60	1.300	1.000	0.214	0.873**
Occupation(143)	60	4.233	1.000	6.555	-0.109

APPENDIX C

DESCRIPTIVE STATISTICS OF RESPONSES C.4 PRETEST/CONTROL SAMPLE

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
General Current Price Level (1)	25	4.240	4.000	0.190	1.216**
Current Prices: Beef (2)	25	4.480	4.000	0.260	0.080
Current Prices: Pork (3)	23	4.261	5.000	0.565	-0.453
Current Prices: Poultry (4)	25	3.640	3.000	0.823	0.086
Current Prices: Milk (5)	25	3.440	3.000	0.507	0.568
Current Prices: Cheese (6)	24	3.458	3.000	0.433	1.091**
Current Prices: Butter (7)	23	4.217	4.000	0.451	-0.262
Current Prices: Bread (8)	25	3.480	3.000	0.593	0.626
Current Prices: Flour (9)	23	3.087	3.000	0.538	0.578
Current Prices: Breakfast Cereals (10)	22	3.636	4.000	0.719	-0.198
Current Prices: Fruit (11)	25	3.520	3.000	0.677	0.164
Current Prices: Vegetables (12)	25	3.360	3.000	0.740	0.845
Current Prices: Eggs (13)	25	4.360	4.000	0.407	-0.444
General Future Price Level (14)	20	4.333	5.000	0.580	-1.230**
Future Prices: Beef (15)	25	4.160	4.000	0.807	-1.021**
Future Prices: Pork (16)	23	4.000	4.000	0.909	-0.643
Future Prices: Poultry (17)	25	3.680	4.000	0.727	-0.579
Future Prices: Milk (18)	25	3.880	4.000	0.193	-0.642
Future Prices: Cheese (19)	25	3.720	4.000	0.377	0.210
Future Prices: Butter (20)	24	3.792	4.000	0.346	-1.268**

APPENDIX C.4. (Continued)

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Future Prices:Bread(21)	25	3.920	4.000	0.243	-0.209
Future Prices:Flour(22)	24	3.625	4.000	0.332	0.196
Future Prices:Breakfast Cereals(23)	22	3.591	4.000	0.253	-0.370
Future Prices:Fruit(24)	25	3.560	4.000	0.423	-0.225
Future Prices:Vegetables(25)	25	3.440	3.000	0.423	0.225
Future Prices:Eggs(26)	25	3.680	4.000	0.810	-0.730*
General Past Price Level(27)	24	2.042	2.000	1.346	1.113**
Past Prices:Beef(28)	25	1.880	1.000	1.610	1.477**
Past Prices:Pork(29)	23	1.913	1.000	1.810	1.305**
Past Prices:Poultry(30)	25	2.320	2.000	1.310	0.539
Past Prices:Milk(31)	25	2.480	2.000	0.843	1.213**
Past Prices:Cheese(32)	25	2.480	2.000	0.510	0.421
Past Prices:Butter(33)	24	2.417	2.000	1.210	1.117**
Past Prices:Bread(34)	25	2.360	2.000	0.573	1.075**
Past Prices:Flour(35)	23	2.609	3.000	0.340	0.271
Past Prices:Breakfast Cereals(36)	25	2.455	2.000	0.450	0.168
Past Prices:Fruit(37)	23	2.320	2.000	0.643	-0.135
Past Prices:Vegetables(38)	22	2.400	3.000	0.583	-0.229
Past Prices:Eggs(39)	25	1.920	1.000	1.415	1.223**
Consistency of Product Location(40)	25	1.920	2.000	0.243	-0.207
Selection(41)	23	1.783	2.000	0.632	0.953*

APPENDIX C.4 (Continued)

Question(Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Other Store Availability(42)	25	2.320	2.000	1.060	0.731*
Interest in Nutrition(43)	24	3.750	5.000	1.848	-0.809*
Confidence in Safety Standards(44)	25	4.120	4.000	0.443	-0.120
General Confidence in Food(45)	24	4.292	5.000	1.085	-1.785**
Bargain Purchasing(46)	25	3.280	4.000	1.043	-0.342
Purchase Influence:Spouse(47)	23	3.174	5.000	2.332	0.093
Purchase Influence:Children(48)	21	4.667	5.000	0.533	-2.572**
Purchase Influence:Parents(49)	22	4.227	5.000	1.041	-1.843**
Purchase Influence:Others(50)	24	4.042	4.000	0.998	-1.419**
Purchase Due to:Conversations with Friends(51)	25	3.800	4.000	0.667	-0.503
Purchase Due to:Comparison Shopping(52)	25	3.080	2.000	1.077	0.296
Purchase Due to:Displays(53)	25	3.880	4.000	0.860	-1.361**
Purchase Due to:Ads(54)	25	3.760	4.000	0.773	-1.394**
Truth of Ads:Television(55)	25	4.080	5.000	0.993	-0.676
Truth of Ads:Radio(56)	24	3.833	3.000	1.101	-0.124
Truth of Ads:Newspapers(57)	25	3.600	3.000	0.667	0.375
Truth of Ads:Mail(58)	25	3.720	5.000	1.710	-0.380
Truth of Ads:Magazines(59)	25	3.880	3.000	1.193	-0.543

APPENDIX C.4(Continued)

Question(Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Amount of Ads:Television(60)	25	3.360	3.000	0.490	0.140
Amount of Ads:Radio(61)	24	3.208	3.000	0.607	0.193
Amount of Ads:Newspapers(62)	25	2.880	3.000	0.693	0.665
Amount of Ads:Mail(63)	25	2.920	3.000	0.827	0.157
Amount of Ads:Magazines(64)	25	3.080	3.000	0.660	0.332
Frequency of Deception in Advertisements(65)	25	3.960	4.000	0.457	-0.783*-
Frequency of Potential Safety Hazard Discovery(66)	24	4.250	4.000	0.457	-1.183**
Complaint to Retailer(67)	23	3.037	5.000	3.628	-0.086
Restitution by Retailer(68)	23	2.391	1.000	3.522	0.638
Complaint to Manufacturer(69)	24	4.583	5.000	1.036	-2.630**
Restitution by Manufacturer(70)	22	4.000	5.000	2.571	-1.064**
Attitude of Employees(71)	20	2.000	2.000	0.842	0.419
Frequency of New Product Discovery(72)	25	2.880	2.000	0.860	-0.081
Experimental Purchasing(73)	25	3.526	4.000	0.510	-1.122**
Frequency of New Brand(74)	25	2.720	2.000	1.460	0.699
Frequency of an Entirely New Product(75)	23	3.174	4.000	1.241	-0.550
Number of Stores Shopped(76)	24	3.167	3.000	1.014	-0.077
Phase of Store Comparison(77)	24	2.625	2.000	1.027	0.292
Phase of Computing in order to Comparison Shop(78)	25	3.160	4.000	1.057	-0.089

APPENDIX C.4 (Continued)

Question(Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Efficiency of Farmers(79)	25	3.720	4.000	0.793	-0.148
Efficiency of Distribution(80)	24	3.500	4.000	0.870	-0.164
Efficiency of Manufacture(81)	24	3.583	3.000	0.428	0.640
Efficiency of Pricing(82)	25	2.760	2.000	0.773	0.857*
Base of Price Comparison(83)	25	2.440	2.000	1.423	0.595
Profits:Retailers(84)	25	3.680	3.000	0.560	0.581
Profits:Wholesalers and Distributors(85)	25	3.840	4.000	0.473	0.203
Profits:Manufacturers(86)	25	3.840	3.000	0.640	0.289
Profits:Farmers(87)	25	2.320	3.000	0.643	-0.135
Profits:Credit Agencies(88)	25	3.966	4.000	0.623	0.069
Knowledge of Grades(89)	25	3.080	2.000	1.327	0.177
Importance of Grades(90)	25	2.920	2.000	1.243	0.527
Price/Quality Equation(91)	25	2.760	4.000	1.107	-0.166
Interest Responsiveness:National Government(92)	25	3.560	4.000	0.673	-0.426
Interest Responsiveness:Provincial Government(93)	25	3.440	4.000	0.590	-0.359
Interest Responsiveness:Retailers(94)	25	3.320	4.000	1.227	-0.472
Interest Responsiveness:Distributors(95)	24	3.583	4.000	0.862	-0.747*
Interest Responsiveness:Manufacturers(96)	25	3.320	3.000	1.143	-0.458
Interest Responsiveness:Farmers(97)	25	3.440	3.000	1.257	-0.210

APPENDIX C.4 (Continued)

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Importance: Price Level (98)	25	7.720	7.000	1.043	-0.136
Importance: Meaningful Choice (99)	25	7.120	8.000	3.527	-1.564**
Importance: Price Stability (100)	25	6.680	7.000	3.060	-0.593
Importance: Competitive Environment (101)	25	6.920	6.000	3.243	-1.014*
Importance: Product Availability (102)	25	7.680	8.000	1.227	-1.030*
Importance: Production Efficiency (103)	25	7.400	8.000	0.389	1.500**
Importance: Distribution Efficiency (104)	25	7.600	8.000	1.583	-0.614
Importance: Pricing Efficiency (105)	25	7.840	8.000	0.807	-0.387
Importance: Nutritive Value (106)	25	8.040	9.000	0.957	-0.353
Importance: Physical Safety (107)	25	8.080	9.000	0.993	-0.418
Importance: Information (108)	25	7.680	7.000	1.060	-0.029
Importance: Ability to Voice Grievances (109)	25	7.680	7.000	1.227	0.097
Importance: Quality (110)	25	8.240	8.000	0.440	-0.281
Importance: Representation (111)	25	7.040	7.000	1.707	-0.075
Priority: Price Level (112)	24	3.208	1.000	9.476	1.983**
Priority: Meaningful Choice (113)	24	5.792	4.000	8.259	0.718*
Priority: Price Stability (114)	24	6.875	8.000	11.679	0.376
Priority: Competitive Environment (115)	24	9.208	9.000	9.476	-0.200
Priority: Product Availability (116)	24	5.792	4.000	11.737	0.678
Priority: Production Efficiency (117)	24	10.167	10.000	6.058	-1.107**
Priority: Distribution Efficiency (118)	24	10.542	13.000	6.346	-1.700**
Priority: Pricing Efficiency (119)	24	8.708	8.000	7.868	-0.274
Priority: Nutritive Value (120)	24	5.167	5.000	8.145	0.402

APPENDIX C.4 (Continued)

Question (Number)	Number of Valid Responses	Mean	Mode	Variance	Skewness
Priority: Physical Safety(121)	24	6.292	6.000	10.390	0.018
Priority: Information(122)	24	8.375	12.000	13.723	-0.246
Priority: Ability to Voice Grievances(123)	24	10.292	13.000	10.303	-0.616
Priority: Quality(124)	24	3.583	1.000	10.254	1.499**
Priority: Representation(125)	24	12.375	14.000	8.245	-1.590**
Sex(126)	25	1.600	2.000	0.250	-0.403
Age(127)	25	2.680	2.000	0.810	1.376**
Number of Family Members(128)	25	2.320	2.000	1.727	.183
Number of Income Earners(129)	25	1.600	2.000	0.333	0.265
Income(130)	24	3.875	4.000	3.332	0.364
Savings/Investment(131)	22	3.682	2.000	7.561	0.974*
Assessment of Income Change(132)	25	2.640	3.000	0.490	-1.628**
Assessment of Cost of Living Change(133)	25	2.880	3.000	0.193	-3.645**
Number of Credit Cards(134)	25	2.840	0.000	9.807	0.674
Use of Credit for Food(135)	25	4.920	5.000	0.077	-3.096**
Car Ownership(136)	25	1.240	1.000	0.190	1.218**
Use of Public Transport for Commuting(137)	25	1.680	2.000	0.227	-0.772*
Use of Coupons(138)	24	1.250	1.000	0.196	1.155**
Keeping a Formal Budget(139)	25	1.680	2.000	0.227	-0.772*
Faithful Use of a Formal Budget(140)	25	0.920	0.000	1.910	1.112**
Education(141)	25	3.840	4.000	0.223	-0.535
Employment Status(142)	24	1.083	1.000	0.080	3.015**
Occupation(143)	24	2.917	2.000	1.819	0.153

APPENDIX D

DESCRIPTIVE STATISTICS OF MANUFACTURED PRICE STABILITY RESPONSES D.1 TOTAL SAMPLE *

Product Group	Mean	Variance	Skewness	Design Effect on the Mean
General Price Level	3.539	0.537	0.0453	0.0079
Beef	3.521	0.668	-0.0336	0.1008
Pork	3.406	0.345	0.0078	0.0992
Poultry	3.308	0.669	-0.2679	0.0943
Milk	3.370	0.451	0.1168	0.1110
Cheese	3.354	0.726	0.1623	0.0761
Butter	3.462	0.835	-0.0209	0.1098
Bread	3.409	0.912	0.2227	0.0067
Flour	3.285	0.199	0.1657	0.0118
Breakfast Cereals	3.417	0.588	0.1890	0.0320
Fruit	3.294	0.456	0.4321	0.1001
Vegetables	3.187	0.544	0.2009	0.0911
Eggs	3.336	0.554	-0.3865	0.0867

Source: Linear average of price judgements: Present, future, and Past

* Number of complete records: 98.

APPENDIX D

DESCRIPTIVE STATISTICS OF MANUFACTURED
PRICE STABILITY RESPONSES
D.2 WINNIPEG BUYERS CLUB SAMPLE *

Product Group	Mean	Variance	Skewness
General Price Level	3.917	0.501	0.0198
Beef	3.788	0.145	-0.0080
Pork	3.743	0.601	0.0332
Poultry	3.621	0.087	-0.1008
Milk	3.576	0.765	0.1110
Cheese	3.652	0.456	0.1000
Butter	3.633	0.441	0.0998
Bread	3.667	0.339	0.1017
Flour	3.536	0.442	0.0922
Breakfast Cereals	3.537	0.129	0.0874
Fruit	3.435	0.534	0.0589
Vegetables	3.392	0.449	0.0919
Eggs	3.681	0.801	0.1098

Source: Linear average of price judgements: Present, Future, and Past

* Number of complete records: 20

APPENDIX D

DESCRIPTIVE STATISTICS OF MANUFACTURED
PRICE STABILITY RESPONSES
D.3 CONSUMERS ASSOCIATION SAMPLE *

Product Group	Mean	Variance	Skewness
<hr/>			
General Price Level	3.398	0.906	0.3459
Beef	3.429	1.007	-0.2219
Pork	3.289	0.901	0.2309
Poultry	3.235	0.342	-0.1987
Milk	3.339	0.671	0.0637
Cheese	3.296	0.622	0.0986
Butter	3.396	0.006	0.0765
Bread	3.376	0.099	0.1356
Flour	3.258	0.145	0.1111
Breakfast Cereals	3.467	0.322	0.1937
Fruit	3.305	0.789	0.2220
Vegetables	3.158	0.901	0.2834
Eggs	3.211	0.529	-0.3009

Source: Linear average of price judgements: Present, Future and Past

* Number of complete records: 58

APPENDIX D

DESCRIPTIVE STATISTICS OF MANUFACTURED
PRICE STABILITY RESPONSES
D.4 PRETEST/CONTROL SAMPLE *

Product Group	Mean	Variance	Skewness
General Price Level	3.538	0.981	0.0415
Beef	3.501	0.456	-0.1192
Pork	3.391	0.359	-0.1007
Poultry	3.213	0.778	0.0996
Milk	3.267	0.961	0.1007
Cheese	3.219	0.054	0.0099
Butter	3.475	0.599	0.0110
Bread	3.253	0.679	0.0053
Flour	3.107	0.599	0.1411
Breakfast Cereals	3.394	0.882	0.0999
Fruit	3.133	0.861	0.2197
Vegetables	3.067	0.666	0.1156
Eggs	3.322	0.531	-0.1209

Source: Linear average of price judgements: Present, Future, and Past

* Number of complete records: 20

APPENDIX E

CORRELATION COEFFICIENTS BETWEEN INTENSITY SCALINGS OF COMPONENTS AND RELATED ATTITUDINAL RESPONSES BY SAMPLE E.1 PRICE RELATED COMPONENTS: PRICE LEVEL, PRICE STABILITY, AND PRICING EFFICIENCY

Question (Number)	Winnipeg Buyers Club	Consumers Association	Pretest/ Control	Total
<u>Price Level</u>				
General Current Price Level (1)	-0.83391	-0.79562	-0.51304	-0.81102
Current Prices: Beef (2)	0.49507	0.70098	0.58490	0.67397
Current Prices: Pork (3)	-0.27116	0.61489	0.19321	0.48228
Current Prices: Poultry (4)	0.40303	0.48312	0.43825	0.47405
Current Prices: Milk (5)	0.30385	0.34873	0.45122	0.36182
Current Prices: Cheese (6)	0.03037	0.24033	0.18673	0.26664
Current Prices: Butter (7)	-0.01793	0.30157	0.25574	0.25377
Current Prices: Bread (8)	-0.04490	0.43119	0.51128	0.42901
Current Prices: Flour (9)	-0.03359	0.57699	0.00604	0.45959
Current Prices: Breakfast Cereals (10)	-0.19896	0.14038	0.14564	0.11619
Current Prices: Fruit (11)	0.17508	0.22929	0.21847	0.23373
Current Prices: Vegetables (12)	0.08333	0.26907	0.42670	0.28859
Current Prices: Eggs (13)	0.42802	0.51385	0.27581	0.47772
<u>Price Stability</u>				
General Price Stability (1, 14, 17)	-0.83121	-0.76091	-0.61815	-0.53382
Price Stability: Beef (2, 15, 28)	-0.79824	-0.61254	-0.74323	-0.55471
Price Stability: Pork (3, 16, 29)	0.69388	0.18203	0.07346	0.26272
Price Stability: Poultry (4, 17, 30)	0.70715	0.23821	0.75131	0.24466

APPENDIX E.1 (Continued)

Question (Number)	Winnipeg Buyers Club	Consumers Association	Prestest/ Control	Total
Price Stability: Milk (5, 18, 31)	0.35603	-0.10575	0.44009	-0.31629
Price Stability: Cheese (6, 19, 32)	0.52760	0.03929	-0.42565	0.16491
Price Stability: Butter (7, 20, 33)	0.50305	0.07717	0.71383	-0.71770
Price Stability: Bread (8, 21, 34)	0.46762	-0.10430	0.24409	-0.12560
Price Stability: Flour (9, 22, 35)	-0.04066	-0.10274	0.21696	-0.05386
Price Stability: Breakfast Cereals (10, 23, 36)	-0.37007	0.05108	-0.1661	0.01472
Price Stability: Fruit (11, 24, 37)	-0.35200	0.06809	0.04175	-0.10084
Price Stability: Vegetables (12, 25, 38)	0.73480	0.17461	-0.32219	0.49663
Price Stability: Eggs (13, 26, 39)	-0.02087	0.39662	0.36115	0.20768
<u>Pricing Efficiency</u>				
Efficiency of Pricing (82)	0.80147	0.79396	0.61553	0.86691

APPENDIX F

CORRELATION COEFFICIENTS BETWEEN INTENSITY RATINGS OF COMPONENTS
AND RELATED ATTITUDINAL RESPONSES BY SAMPLE
F.2 SUPPLY RELATED COMPONENTS: MEANINGFUL CHOICE, COMPETITIVE
ENVIRONMENT, PRODUCT AVAILABILITY, PRODUCTION EFFICIENCY AND
DISTRIBUTION EFFICIENCY

Question (Number)	Winnipeg Buyers Club	Consumers Association	Pretest/ Control	Total
<u>Meaningful Choice</u>				
Selection(41)	-0.38214	-0.46766	-0.00834	-0.16494
Bargain Purchasing (46)	-0.33321	-0.05351	-0.04306	-0.21090
Frequency of New Product Discovery(72)	-0.77087	0.10170	0.08429	-0.23005
Experimental Purchasing(73)	-0.05951	-0.06601	-0.23696	-0.15921
Frequency of New Brand(74)	0.03942	-0.15292	-0.10354	-0.16753
Frequency of an Entirely New Product(75)	-0.31334	-0.25416	-0.12364	-0.19796
Phase of Price Comparison(83)	0.09952	0.06450	-0.14865	0.10189
<u>Competitive Environment</u>				
Number of Stores Shopped(76)	0.40921	0.30125	0.29901	0.28193
Phase of Store Comparison(77)	0.51326	0.65462	0.41326	0.61502
Phase of Committing in order to Comparison Shop(78)	0.62152	0.59103	0.54162	0.59085

APPENDIX E.2(Continued)

Question(Number)	Winipeg Buyers Club	Consumers Association	Pretest/ Control	Total
Profits:Retailers(84)	0.06523	0.19246	0.13462	-0.13916
Profits:Wholesalers and Distributors(85)	0.13990	-0.07334	-0.17370	-0.06070
Profits:Manufacturers(86)	-0.20356	0.00436	0.01449	-0.04152
Profits:Farmers(87)	-0.23315	-0.08080	0.00562	-0.17378
Profits:Credit Agencies(88)	-0.24575	0.06819	-0.10683	-0.14297
<u>Product Availability</u>				
Consistency of Product Location(40)	-0.28397	-0.16767	-0.30599	-0.14544
Other Store Availability(42)	-0.27684	-0.23873	-0.28696	-0.24367
<u>Production Efficiency</u>				
Efficiency of Farmers(79)	0.10081	0.25756	0.08368	0.13324
Efficiency of Manufacture(81)	0.18238	0.04270	-0.26866	0.13080
<u>Distribution Efficiency</u>				
Efficiency of Distribution(80)	0.67820	0.62884	0.66361	0.59178

APPENDIX E

CORRELATION COEFFICIENTS BETWEEN INTENSITY SCALINGS OF COMPONENTS AND RELATED ATTITUDINAL RESPONSES BY SAMPLE E.3 PRODUCT RELATED COMPONENTS: NUTRITIVE VALUE, PHYSICAL SAFETY, AND QUALITY

Question (Number)	Winnipeg Buyers Club	Consumers Association	Pretest/ Control	Total
<u>Nutritive Value</u>				
Interest in Nutrition(43)	-0.10943	-0.51304	-0.26155	-0.29805
General Confidence in Food(45)	0.09070	0.46662	0.02180	0.05707
<u>Physical Safety</u>				
Confidence in Safety Standards(44)	3.64125	0.60100	0.44034	0.47474
Frequency of Potential Safety Hazard Discovery(66)	-0.06638	-0.08203	-0.21271	-0.17278
<u>Quality</u>				
Knowledge of Grades(89)	-0.11667	-0.22166	-0.445205	-0.17644
Importance of Grades(90)	-0.13284	-0.15710	-0.43438	-0.21213
Price/Quality Equation(91)	0.00386	0.04886	-0.32213	-0.17487

APPENDIX F

CORRELATION COEFFICIENTS BETWEEN INTENSITY SCALINGS OF COMPONENTS AND RELATED ATTITUDINAL RESPONSES BY SAMPLE F.4 COMMUNICATIONS RELATED COMPONENTS: INFORMATION, ABILITY TO VOICE GRIEVANCES, AND REPRESENTATION

Question (Number)	Minneapolis Buyers Club	Consumers Association	Pretest/ Control	Total
<u>Information</u>				
Purchase Influence: Spouse (47)	-0.07177	-0.00895	-0.13420	0.01499
Purchase Influence: Children (48)	-0.23900	-0.25951	0.09386	0.21524
Purchase Influence: Parents (49)	-0.18534	0.07867	0.11282	0.05321
Purchase Influence: Others (50)	-0.17097	0.11729	-0.12579	0.07520
Purchase Due to: Conversations with Friends (51)	-0.25802	0.03598	-0.30432	0.01545
Purchase Due to: Comparison Shopping (52)	-0.38152	0.04470	0.17305	0.12565
Purchase Due to: Displays (53)	-0.13725	-0.06627	0.30281	-0.14629
Purchase Due to: Ads (54)	0.35702	-0.00834	0.07760	0.02476
Truth of Ads: Television (55)	0.10198	-0.04640	-0.09843	-0.06222
Truth of Ads: Radio (56)	0.06419	0.04561	0.08687	-0.11024
Truth of Ads: Newspapers (57)	0.07719	0.07439	-0.27553	-0.15890
Truth of Ads: Mail (58)	-0.05677	-0.15352	-0.22879	-0.19728
Truth of Ads: Magazines (59)	0.01694	0.00820	0.04663	-0.04027
Amount of Ads: Television (60)	-0.25298	-0.13962	0.06952	-0.29631
Amount of Ads: Radio (61)	-0.21114	-0.05002	0.07089	-0.22795

APPENDIX E.4(Continued)

Question(Number)	Winnipeg Buyers Club	Consumers Association	Pretest/ Control	Total
Amount of Ads:Newspapers(62)	-0.30707	-0.05083	0.13097	-0.18645
Amount of Ads:Mail(63)	-0.10174	-0.05021	0.26130	-0.18572
Amount of Ads:Magazines(64)	-0.16624	-0.03982	0.00801	-0.16452
Frequency of Deception in Advertisements(65)	0.03745	-0.01439	-0.09273	0.08896
<u>Ability to Voice Grievances</u>				
Complaint to Retailer(67)	0.06886	0.68203	-0.21271	0.17278
Restitution by Retailer(68)	-0.10661	-0.93524	-0.21058	-0.29503
Complaint to Manufacturer(69)	0.19183	0.19309	0.03844	0.12370
Restitution by Manufacturer(70)	-0.01092	-0.06418	-0.15998	-0.08256
Attitude of Employees(71)	0.22026	-0.06533	0.04900	-0.19191
<u>Representation</u>				
Interest Responsiveness: National Government(92)	-0.08061	-0.00193	-0.10188	-0.12579
Interest Responsiveness:Provincial Government(93)	-0.24637	0.11788	-0.18288	-0.13520
Interest Responsiveness:Retailers(94)	0.16152	-0.18732	-0.03516	-0.12247

APPENDIX F.4(Continued)

Question (Number)	Winnipeg Buyers Club	Consumers Association	Protest/ Control	Total
Interest Responsiveness: Distributors(95)	-0.25151	-0.14832	-0.23986	-0.20018
Interest Responsiveness: Manufacturers(96)	-0.27048	-0.29383	-0.14160	-0.18361
Interest Responsiveness: Farmers(97)	-0.01830	-0.21322	-0.33208	-0.25724

APPENDIX F

DESCRIPTION OF THE METHODOLOGY OF MULTIDIMENSIONAL SCALING ANALYSIS AS APPLIED TO THE SURVEY DATA

Assumptions and Objectives

The model assumes that the judgments of m respondents to n stimuli are related in a simple and direct fashion to the psychological distances between pairs of points in a space spanned by r elementary vectors. The object of the procedure is to maintain the relationship between the observed data and the scale values of that data, while reducing the number of vectors necessary to span the space. The distance relationship is:

$$d_{jk}^i = \left(\sum_{t=1}^r w_{it} (X_{jt} - X_{kt})^2 \right)^{1/2}$$

Where:

d_{jk}^i is the distance between stimulus j and stimulus k for subject i ; $j, k: 1 \dots n$ and $i: 1 \dots m$,
 w_{it} is the weight placed by subject i on dimension t :
 $1 \dots r$, and

X_{jt} and X_{kt} are the positions of stimuli j and k on dimension t respectively.

This function differs from the normal Euclidean distance function only by the inclusion of the weighting factor. The objective of the procedure is then to reduce the variance in the number of dimensions and account for it in the weights placed on the remaining dimensions.

Procedure

The value of the weighting factors can be plotted in a new space which is defined as:

$$y_{jt}^{(i)} = w_{it}^{1/2} X_{jt} \quad ii$$

Where:

$y_{jt}^{(i)}$ is the ordinate of the new space of stimulus j on dimension t for individual i .

In this new space the weighting variable will be a vector which length is determined by the magnitude of the weight. In order to determine the degree of consistency in the weighting pattern across all dimensions, it is necessary to compute a scalar product vector for all pairs of stimuli across all dimensions for each individual. This scalar product vector is defined to be:

$$b_{jk}^{(i)} = \sum_{t=1}^r y_{jt}^{(i)} y_{kt}^{(i)} \quad iii$$

Substitution of ii into iii yields:

$$b_{jk}^{(i)} = \sum_{t=1}^r w_{it}^{1/2} X_{jt} X_{kt} \quad iv$$

The unfolding of the data is accomplished by means of the canonical decomposition of this scalar product vector. The method uses iterative least squares to solve for the elements of the weighting pattern and the final rotated positions of the scaled stimuli.

The model becomes:

$$z_{ijk} = \sum_{t=1}^r w_{it} X_{jt}^{L} X_{kt}^{R} \quad v$$

Where:

z_{ijk} is a three dimensional matrix containing all scalar products between all comparisons of the n stimuli for all m respondents. The surpscripts L and R are used to discriminate between the left and right elements of the original matrix in order to maintain an assessment of the degree of adherence.

In matrix notation this becomes:

$$Z = W X(L) X(R) \quad vi$$

Where:

Z is an $m \times n \times n$ matrix,
 W is an $m \times r$ matrix, and
 $X(L)$ and $X(R)$ are both $n \times r$ matrixes.

It is now possible to use the technique of least squares to solve for the elements of these matrixes. The cannonical decomposition proceeds by slicing through the composite matrix in order to allow only one of the dimensions: i, j , and k to vary.

To solve for the weights the following definitions are used:

$$s = n(j - 1) + k \quad vii(a)$$

$$g_{st} = X_{jt}^{L} \cdot X_{kt}^{R} \quad q \quad vii(b)$$

and

$$z_{is}^{*} = z_{ijk} \quad vii(c)$$

The variable s varies from 1 to n . The variable g abstracts the multiplicative effects of the original data positions on the scalar products. The variable z^* is the transformation of the matrix z in which only i is allowed to vary as j and k are held constant.

The estimation equation becomes:

$$z^*_{is} = \sum_{t=1}^r w_{it} g_{st} \quad \text{viii}$$

In matrix notation this becomes:

$$Z^* = W G' \quad \text{ix}$$

Where:

Z^* is an $m \times n^2$ matrix,

W is an $m \times r$ matrix,

G' is an $r \times n^2$ matrix as G' is the transpose of the $n^2 \times r$ matrix G .

In the first iteration the matrix W is to be estimated. The least squares estimation is given by:

$$W = Z^* G (G'G)^{-1} \quad \text{x}$$

which is found by postmultiplying Z^* by the right pseudo inverse of G' .^{1/}

The next step in the iterative procedure is to estimate both $X(L)$ and $X(R)$ holding the other two variables constant as the one is

^{1/} If a matrix has full row rank then it will have a right pseudo inverse. If it has full column rank then the matrix will have a left pseudo inverse. A pseudo inverse is an inverse which partitions a data matrix into composite matrixes and then manipulates the products of these matrixes in order to generate a normal inverse. In the model described above G' has full row rank and hence has a right pseudo inverse. (Albert (1))

allowed to vary. The matrix W is held at its modified level.

In each step the residual sum of squares is reduced. The process is continued until the X(L) and X(R) matrixes are equal or at least form the relationship:

$$X(L) = C X(R) \quad \text{xi(a)}$$

and

$$X(R) = C^{-1} X(L) \quad \text{xi(b)}$$

Where:

C is a diagonal matrix composed of all positive elements.

In practice the two matrixes are set equal to each other.

APPENDIX G

DIMENSIONAL COORDINATES AND PERCENTAGE OF
EXPLAINED VARIANCE OF SCALED COMPONENTS
G.1 TOTAL SAMPLE

Component	Dimension I		Dimension II		Dimension III		Total Percent
	Coordinate	Percent	Coordinate	Percent	Coordinate	Percent	
Price Level	-1.064	3.460	-0.871	2.319	0.016	0.001	5.780
Meaningful Choice	-1.598	7.813	-0.503	0.774	-0.095	0.028	8.615
Price Stability	-1.286	5.053	-0.650	1.298	-0.128	0.050	6.393
Competitive Environment	-1.487	6.764	-0.149	0.068	-0.360	0.395	7.227
Product Availability	-1.362	5.676	-0.438	0.586	-0.075	0.017	6.279
Production Efficiency	-1.444	6.377	0.161	0.079	-0.770	1.811	8.267
Distribution Efficiency	-1.446	6.395	0.208	0.132	-0.809	2.003	8.530
Pricing Efficiency	-1.220	4.550	-0.023	0.002	-0.762	1.773	6.325
Nutritive Value	-1.190	4.328	0.637	1.242	0.553	0.936	6.506
Physical Safety	-1.371	5.745	0.703	1.512	0.422	0.554	7.801
Information	-1.539	7.244	0.416	0.530	0.032	0.003	7.777
Ability to Voice Grievances	-1.570	7.534	0.421	0.542	-0.487	0.724	8.800
Quality	-1.001	3.062	-0.127	0.047	0.136	0.057	3.166
Representation	-1.586	7.690	0.058	0.010	-0.521	0.831	8.531
Total Percent		81.691		9.133		9.173	99.997
Correlation with input data:		0.827054					

APPENDIX G

DIMENSIONAL COORDINATES AND PERCENTAGE OF EXPLAINED VARIANCE OF SCALED COMPONENTS G.2 WINNIPIC BUYERS CLUB SAMPLE

Component	Dimension I Coordinate	Percent	Dimension II Coordinate	Percent	Dimension III Coordinate	Percent	Total Percent
Price Level	-1.840	4.167	-0.475	0.277	0.006	0.000	4.444
Meaningful Choice	-2.765	9.409	-0.274	0.093	-0.036	0.002	9.504
Price Stability	-2.224	6.085	-0.354	0.154	-0.048	0.003	6.243
Competitive Environment	-2.573	8.146	-0.081	0.008	-0.136	0.023	8.177
Product Availability	-2.357	6.836	-0.239	0.070	-0.028	0.001	6.907
Production Efficiency	-2.498	7.680	0.088	0.009	-0.290	0.104	7.793
Distribution Efficiency	-2.502	7.702	0.113	0.016	-0.305	0.114	7.832
Pricing Efficiency	-2.110	5.479	-0.013	0.000	-0.287	0.101	5.580
Nutritive Value	-2.058	5.212	0.347	0.148	0.209	0.054	5.414
Physical Safety	-2.371	6.918	0.383	0.181	0.159	0.031	7.130
Information	-2.662	8.724	0.227	0.063	0.012	0.000	8.787
Ability to Voice Grievances	-2.715	9.073	0.229	0.064	-0.183	0.041	9.178
Quality	-1.731	3.687	-0.069	0.006	0.051	0.003	3.696
Representation	-2.743	9.263	0.032	0.001	-0.197	0.046	9.312
Total Percent		98.382		1.090		0.525	99.997

Correlation with input data:

0.726178

APPENDIX C

DIMENSIONAL COORDINATES AND PERCENTAGE OF EXPLAINED VARIANCE OF SCALED COMPONENTS G.3 CONSUMERS ASSOCIATION SAMPLE

Component	Dimension I		Dimension II		Dimension III		Total
	Coordinate	Percent	Coordinate	Percent	Coordinate	Percent	
Price level	-0.700	2.384	-0.897	3.908	0.023	0.003	6.295
Meaningful Choice	-1.052	5.383	-0.518	1.304	-0.132	0.085	6.772
Price Stability	-0.846	3.481	-0.669	2.174	-0.178	0.154	5.809
Competitive Environment	-0.979	4.659	-0.153	0.114	-0.501	1.221	5.994
Product Availability	-0.897	3.911	-0.451	0.988	-0.105	0.053	4.952
Production Efficiency	-0.951	4.394	0.166	0.133	-1.073	5.593	10.120
Distribution Efficiency	-0.952	4.406	0.214	0.223	-1.128	6.184	10.813
Pricing Efficiency	-0.803	3.134	-0.024	0.003	-1.061	5.475	8.612
Nutritive Value	-0.783	2.982	0.656	2.092	0.771	2.889	7.953
Physical Safety	-0.902	3.958	0.724	2.548	0.588	1.678	8.184
Information	-1.013	4.990	0.429	0.893	0.044	0.010	5.893
Ability to Voice Grievances	-1.033	5.191	0.434	0.913	-0.678	2.236	8.340
Quality	-0.659	2.109	-0.131	0.083	0.190	0.176	2.368
Representation	-1.044	5.299	0.060	0.017	-0.727	2.566	7.882
Total Percent		<u>56.281</u>		<u>45.393</u>		<u>28.323</u>	<u>99.997</u>

Correlation with input data: 0.803505

APPENDIX G

DIMENSIONAL COORDINATES AND PERCENTAGE OF EXPLAINED VARIANCE OF SCALED COMPONENTS G.4 PRETEST/CONTROL SAMPLE

Component	Dimension I Coordinate	Percent	Dimension II Coordinate	Percent	Dimension III Coordinate	Percent	Total Percent
Price Level	-0.601	1.874	-1.451	10.930	0.015	0.001	12.805
Meaningful Choice	-0.903	4.232	-0.838	3.648	-0.086	0.035	7.918
Price Stability	-0.726	2.737	-1.082	6.082	-0.115	0.069	8.888
Competitive Environment	-0.840	3.663	-0.148	0.320	-0.325	0.547	4.530
Product Availability	-0.769	3.074	-0.729	2.763	-0.068	0.024	5.861
Production Efficiency	-0.816	3.454	0.268	0.372	-0.695	2.507	6.333
Distribution Efficiency	-0.817	3.464	0.346	0.623	-0.731	2.772	6.859
Pricing Efficiency	-0.689	2.464	-0.039	0.003	-0.688	2.454	4.925
Nutritive Value	-0.672	2.344	1.062	5.852	0.499	1.295	9.491
Physical Safety	-0.774	3.111	1.171	7.126	0.381	0.752	10.989
Information	-0.869	3.924	0.694	2.498	0.029	0.004	6.426
Ability to Voice Grievances	-0.887	4.080	0.701	2.554	-0.439	1.003	7.637
Quality	-0.565	1.658	-0.212	0.233	0.123	0.079	1.970
Representation	-0.896	4.166	0.096	0.048	-0.471	1.150	5.364
Total Percent		<u>44.245</u>		<u>43.057</u>		<u>12.695</u>	<u>99.997</u>

Correlation with input data:

0.746974

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