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ABSTRACT

'PRISM: A Consumer Information Processing Model for Housewife Decision Making'.

E.J. Wynn-Wilson.

This thesis describes a test of the applicability of a model developed from a qualitative study of a market for consumer non-durables to two other markets for consumer non-durables. The model was developed to explain the effect of public relations information on housewives' buying decisions.

The results of two questionnaire surveys of fifty housewives each were analysed. Results from the first market study were to be confirmed by the second study before acceptance.

The relationships specified in the model were not identified in the tests. It is suggested that the relationship between perceived risk and openness to information was not supported because of the low risk in the present studies and that relationships concerning usage strategies were not identified because it was not possible to group individual strategies.

In the light of the results the problems of developing a generalisable model from a qualitative study of one situation and ways of tackling these problems are discussed.

The advantages and disadvantages to the project of using a market research firm for the survey and of having commercial sponsors are identified.

This thesis provides several criteria for distinguishing between the diverse conceptualisations of perceived risk reviewed. It points out why the uncertainty component and not the probability component is consistent with perceived risk theory. It shows that there is little conclusive evidence of a relationship between consumer perceived risk and information handling due to a lack of quality programmatic research, although that relationship is often held to be true.

The above point highlights a general problem in consumer behaviour research exemplified by a lack of programmatic research, by exploratory studies which are not followed up and by many measures of concepts none of which are validated.

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CHAPTER ONE

INTRODUCTION

INTRODUCTION

1.1 AIM OF THE INVESTIGATION

The aim of the investigation reported here was to increase knowledge of the ways in which housewives use information by developing a model known as PRISM (a public relations information handling and decision making model). The hypothesis suggested from previous research were to be tested and the concepts and relationships were to be specified with more confidence thus increasing knowledge of the ways in which housewives use information.

Chapter two describes the importance of this research project.

1.2 RELATIONSHIP TO PREVIOUS WORK

The initial development of PRISM was carried out in the public relations research unit at Kingston Polytechnic. It takes an information processing approach, but has important differences from others in the field, mainly in its treatment of usage strategies and the perception of risk. In 1979 Lever Brothers Ltd., sponsored a data collection exercise with the aim of testing a reformulated version of the model. Two small samples of fifty housewives each were interviewed about two frequently purchased household products, viz: fabric conditioner and cream cleanser. This thesis describes the analysis of data from those interviews.

The previous work is described in chapter three: The History of the Research.

1.3 THE LITERATURE REVIEWS

A review of usage strategy and decision stage in chapter four shows how the concept of usage strategy is unique in the literature and argues that consumer behaviour research has not paid enough attention to product choice, a problem which PRISM addresses.

A review of the literature on information processing in chapter five sets out recent research within an overall structure and describes how the PRISM model relates to this structure.

The review of perceived risk in chapter six was originally intended to cover the whole area of perceived risk. However it was found that the

many measures of perceived risk, none of which had been validated, made comparison of studies difficult. It was therefore decided to devote the main part of the review to clarifying the conceptualisation and measurement of perceived risk. Some of the most important papers in the field are described with particular emphasis on work on perceived risk and information handling and there follows a critical review of these papers. The summary contains suggestions for improving the conceptualisation and measurement of perceived risk.

1.4 THE RESEARCH PROJECT

Chapter seven describes the conceptualisation of the PRISM model which the present project was to test and develop. Hypotheses to be tested and operational definitions of the concepts are specified.

Chapter eight describes the research methods used and the reasons for the choice of mode of analysis.

The research investigation concentrated on investigating the usage strategy and perceived risk/information handling areas of the model as these needed to be developed before other areas of the model could be operationalised. The investigation of usage strategy is described in chapter nine and the investigation of perceived risk in chapter ten. Tests, results and specific conclusions are reported by hypothesis and overall conclusions and a commentary are given at the end of each chapter.

The most important conclusions both from the survey of literature and from the research investigation are given in chapter eleven and chapter twelve contains some suggestions for future research.

SECTION 1 - BACKGROUND TO THE RESEARCH

CHAPTER TWO

THE IMPORTANCE OF THE RESEARCH

THE IMPORTANCE OF THE RESEARCH PROJECT

1.1 The PRISM approach to modelling housewife decision making was to use a qualitative study to identify the structures which subjects perceived as relevant to their decision making, rather than by imposing predetermined structures from outside. The importance of this approach was convincingly argued by the researchers as reported in chapter three. It was hoped that this approach would identify structures which were generalisable to some other situations. This study was designed to test if the model could be generalised to decisions relating to other consumer non-durables.

It was important to test the feasibility of this approach and the findings of this study should enable others to develop this approach or to reject it.

1.2 The research covers an important area, namely decisions about product use, which has not been given much attention in consumer behaviour research.

1.3 In this study, academic researchers co-operated with a market-research team to carry out depth interviews, questionnaire design and field interviews. This is a potentially valuable approach

- a) because it utilizes market researchers' experience in carrying out representative surveys (most academic research has surveyed students).
- b) Because, if consumer behaviour theory is to be applied in market research in the future, the concepts used will need to be measured in market-research surveys. At present many measures used in consumer behaviour research are too complicated and technically worded to be used in this way.

The use of this approach led to various problems including conflict between accurate specification of concepts and the use of operationalisable measures but these problems must be faced at some point if consumer behaviour theory is to be used in market research.

CHAPTER THREE

THE HISTORY OF THE RESEARCH

THE HISTORY OF THE RESEARCH

3.1 INTRODUCTION

The research on which this thesis is based is part of a research programme that has been going on since 1973. This chapter describes the initial aims and objectives of the programme and the philosophy behind the PRISM research. It also gives a chronological structure to the development of the model and sets the 1980-82 analysis within the context of the longer term programme of research. Although developments in the conceptualisation of the model will be mentioned as they occurred, a full account of the conceptualisation is left to Chapter 7.

The research is reported in two unpublished reports:-

'Progress Report on the Kingston - Burston Marsteller Model-Prism' - Public Relations Unit, 1980 and

'Kingston Thames Advertising Research' - Public Relations Unit, 1978.

3.2 THE PROJECT IS SET UP

The PRISM model was developed by a multi-disciplinary research team of lecturers at Kingston Polytechnic. Their work was sponsored by a public-relations agency:- Burston Marsteller. The aim of the team was to develop a model of consumer decision making for assessing the influence of public relations with reference to frequently bought consumer goods.

The team first made an extensive literature review which covered all the available literature from sociology, marketing, psychology and communications which was relevant to the role of communication in decision making. ('First Stage Report on Research into Communication'- Public Relations Research Unit, 1973).

Existing models of consumer decision making were found to be inadequate in various ways so the team began to design a new model which would incorporate soundly based theory but which would be capable of being applied in practice. One way of reconciling the need for soundly based theory and the need for a model that could be applied was to adopt a micro-simulation approach. The model would have a macro-structure

which could be applied generally but it could be further broken down into micro-structures which were to be developed by research for each market studied.

The literature survey led the team to conclude that it would be valid to taken an information processing approach to the model and this would be much more useful than tackling the problem via attitudes. The team were interested in the effect of the information contained in a public relations message. It was believed that information needed by the consumer for decision making would be particularly sought after and public relations could be more effective if it provided that information when it was wanted.

3.3 THE PHILOSOPHY BEHIND THE MODELLING TECHNIQUE

The philosophy that guided the PRISM researchers is set out in a paper presented by S.Ziehl to the Annual Conference of the Marketing Education Group-1976. It is titled 'On PRISM and Marketing Men's Mock Turtle Soup (An account of building a public relations model)'.

The Kingston researchers' review of the literature had led them to criticise many features of other models. They criticised the fact that models were based on observations at one point in time or over a short period of time whereas they were representing a dynamic situation and models were specifically needed to predict the effects of changes. Models were often based on cross-sectional differences to infer changes over time which may not be justified.

The researchers also pointed to the limitations of models which, in order to achieve a simplified, systematic representation of the market situation, forced real phenomena into a very restricting mould e.g. that messages flow in two distinct steps from opinion leaders to the mass audience (e.g. Aaker & Myers 1975) or that beliefs are combined in one particular way to form an attitude for all consumers in all situations.

The treatment of the consumer in modelling was particularly criticised 'The frameworks in which the consumers' behaviour is analysed are imposed on it from outside: they reflect various research traditions in the social sciences, the availability of tools and techniques, and/or the problems and concerns of business men. They do not

traditionally make much use of the consumers' own frameworks, or incorporate their expertise'.

They also criticised the tendency to look at a particular item of behaviour in isolation or related to one other variable thus losing the many interactions and trade-offs involved when the consumer acts in a complex world:-

'This then is the paradox of the mock-turtle-that consumers' behaviour has been fragmented, isolated, objectified into manageable data to be aggregated, computerised and analysed - in an effort to better understand consumers. And yet the information that the marketer finally acquires about his elusive client transforms that client into such an aggregate abstraction that it becomes rather useless as a basis for marketing decision making'.

Although the researchers accepted that not all these problems were resolvable in modelling, they did make some suggestions for improving the approach. They suggested that, rather than the model builder imposing a model on consumers, the model builder should start by:-

'Constructing a map of these phenomena as they appear to the person concerned....Rather than assuming nomothetic, universally valid relationships, such an approach allows for significant variations in different consumer groups, product areas and market situations'.

Using idiographic modelling does not mean that no systematic definitions or relationships can be attained. It only means that they should not be pre-specified or assumed to exist universally. It was argued that, although this method was less likely to come up with universal laws, universal laws leave such a large part of individual behaviour unexplained they may not be of much use in prediction.

Acting on this philosophy the researchers carried out depth interviews to find out how the consumers saw their decision making pattern. They did not confine the decision situation to one particular decision time e.g. decision between brands in the store, they considered decisions involving how the product was used, the effect of information at different points in time upon an eventual decision, etc.

3.4. THE MODEL IS FORMULATED AND TESTED

In 1975 it was decided to develop the model using an investigation of decisions on butter/margarine purchase. The project was carried out with the co-operation of Unilever and with particular reference to their brand 'Flora' a polyunsaturated margarine.

Depth interviews were carried out by members of the unit in order to clarify the decision making processes involved in buying butters and margarines and the risk factors perceived in buying them. This enabled the variables within the model to be specified more precisely.

In the course of the depth interviews it was realised that consumers had developed a specific buying and usage strategy for butters and margarines which currently satisfied the needs of their families.

In the academic year 1975-6 work concentrated on developing the questionnaire needed to carry out a pilot test of the model. The finalised questionnaire was used to collect information from sixty AB housewives, half of whom were polyunsaturated users.

It should be noted that at the time of the fieldwork the Sunday Times published an article in which attention was drawn to the health problems associated with the consumption of butter and other high cholesterol foods.

Analysis of the questionnaire led to the Kingston researchers to conclude that their concept of a basic buying and usage strategy employed by the consumer, with the decision rules inherent in the behaviour, was a good description of actual behaviour. Also, that their methodology for the measurement of the strategy in behavioural terms caused no problem to the consumer.

There was a conflict between consumers' positive attitudes to butter e.g. flavour and their negative beliefs about the health effects. Their response to this conflict was a) to believe that 'moderate' butter consumption would do no harm b) to employ a usage strategy where butter was used for some occasions and individuals and not for others c) to be more open to information.

A significant association was found between consumers classified according to high, medium and low perception of risk of butter

consumption and openness to information on the topic.

It was decided that in future work measurement problems needed to be resolved (measures of perceived risk and information handling) and that the model must be simplified so that it could be used in a routinised way and applied to standard data collection and data analysis procedures.

3.5 ATTEMPTS TO IMPROVE THE MODEL AND REFORMULATION

In 1977 an attempt was made to tackle the problem of measurement of perceived risk. A test was carried out on the problem of choosing and buying a new drink after discussion with International Distillers. Three risk measures were compared with a Fishbein measure and one risk measure had a marginally superior correlation with behavioural intentions. This was to be used in favour of the Fishbein measure but the methodology of risk measurement had still to be improved. 'A Comparison of a Fishbein Model and a Perceived Risk Model in the Context of Investigating Opportunities for New Product Development' 1978.

In the academic year 1978-9 the model was reformulated as a flow chart and new measures were proposed. The aim was to tackle the problem of adapting the procedures to enable routine data handling methods to be used and to standardise the measures themselves.

3.6. SECOND FIELD PILOT

In 1979 the reformulated version of the model was tested on two Lever Brothers brands, Comfort and Jif i.e. fabric conditioner and cream cleanser. The research was sponsored by Lever Brothers and was carried out in co-operation with a market research firm Q.E.D. Lever Brothers provided information on their previous research into fabric conditioners and cream cleansers and Q.E.D. carried out depth interviews on attitudes to the products. A questionnaire was then devised to test the reformulated version of the model using information on possible usage strategies and areas of perceived risk etc., that had been gained from the desk research and depth interviews. (Public Relations Unit 1978) The actual wording of the questionnaire was carried out

jointly by the research team and Q.E.D. staff who used their experience in questionnaire design to frame questions that could be used in a market research interview.

The interviews were carried out in July 1979 on a purposive sample of 100 housewives under the age of 55 (50 respondents for each product).

In April 1980 I was appointed as a research assistant at Thames Polytechnic to analyse the data from these questionnaires.

CHAPTER FOUR

DECISION STAGE AND USAGE STRATEGY: A REVIEW

DECISION STAGE AND USAGE STRATEGY

4.1 DECISION STAGE

The PRISM model has included two levels of decision making, that between products and that between brands. It was found that both levels were needed to explain the effect of public relations information, because this information affects decisions between products as well as between brands. This would also be true for such information as consumer education information, publication of medical studies etc. An understanding of the effect of this information on product choice would be useful to manufacturers and to public policy makers.

Bettman (1979) who has recently reviewed theories of consumer choice has stressed the importance of identifying and analysing different types and levels of choice situation:-

'A major contention of this book is that an understanding of the decision processes used by consumers requires careful analysis of the properties of the different types of choice tasks faced by consumers' and.....

'Consumers make choices at many different levels. Choice of a particular brand from a set of alternatives, although the focus of most consumer research is not the only type of choice made. Consumers must decide about whether or not to examine various pieces of information, which attributes to consider in evaluating brands, when to make a purchase.....how to use purchases and so on'.

The review of the literature did not find consumer behaviour research on choice between products only on choice between brands. This is reflected in the comprehensive models of buyer behaviour where product choice is not included as a separate decision stage. See the Howard model of buyer behaviour 1974 version (Farley, Howard and Ring - 1974) and the Engel, Blackwell & Kollat (1978) model. These models could be used to explain product choice if it is assumed that product choice can replace brand choice in the model.

4.2 USAGE STRATEGY

PRISM research suggested that the product choice may not be a decision between competing alternatives as is usually hypothesised for brand

choice. The concept of usage strategy is that several products may be used in a particular situation in order to satisfy goals, for example some cleaning products would be seen as complementary and use of one product could compensate for the failings of another. Thus a particular product choice would be made within the context of the overall usage strategy. This concept of usage strategy is new to consumer behaviour research and has not been discussed in the literature before.

If this concept of usage strategy is correct it would suggest that brand choice and product choice are different and require different decision processes.

As the effect of information on product use is of interest to both manufacturers and to public policy makers and as the nature of product choice may differ from brand choice, it is considered important to devote more resources to studying product choice.

CHAPTER FIVE

CONSUMER INFORMATION PROCESSING: A REVIEW

5.1 INTRODUCTION

Information processing concerns the interactions between the consumer and his or her information environment, thus it covers a very wide area including attention, information seeking, information acquisition, perception, memory and decision making. Sources vary in the areas they include under the term, for example one text book on Consumer Behaviour - Engel, Blackwell & Kollat (1978) focus on the mechanism by which information affects beliefs, i.e. 'initial information processing' and another textbook, Keith C. Williams (1981) p.169 describes decision net models as 'the information processing model'. The latter is quite common in the literature and gives the impression that decision nets and information processing are synonymous when in fact decision nets are a small part of this area. This was probably due to the wording of Palmer and Faivre's introductory paper (1973).

Most research papers have covered only one or two areas of information processing and have not made clear how these relate to the whole area. Reviews have varied in the way they structure the area.

This review has attempted to cover all the areas of information processing research by area of research and research method and to fit them into an overall structure. This should enable readers to classify particular types of information processing. The way the PRISM model relates to information processing theory is described in section 5.11.

This review uses the description of the information processing approach given by Wilkie and Farris (1976) in their review of the area, see section 5.2 and also uses their method of distinguishing between areas of information processing research. Wilkie and Farris divide the areas covered into 'Initial Information Acquisition' - 5.3, 'Initial Processing' 5.4 and 'information Integration' - 5.5. They divide the research methods used into Decision Net Research 5.6, Input-Output Research 5.8 and Direct Monitoring Research 5.9. Wilkie and Farris refer to Jacoby's Behavioural Process Method under Input-Output Research, but this does not seem appropriate and as the Behavioural Process Method is so widely used in the field it is described in a separate section 5.7. Section

5.9 will cover Bettman's Information Processing Theory of Consumer Choice. Bettman's theory draws together most of the areas and research methods covered in Consumer Information Processing.

5.2 THE INFORMATION PROCESSING APPROACH TO CONSUMER BEHAVIOUR

According to Hughes (1974) Information, in Consumer Information Processing terms, means 'Any stimulus that is relevant to the decision to buy or consume a product or service'. This stimulus can be external or internal (memory).

It can be seen that a person is almost continually in contact with their external or internal information environment. The information processing approach sees the individual as active in that environment, rather than as a passive receiver of information. Information Processing takes place whenever the cognitive processes act or interact with the information environment. This activity can include the perception of information, the acceptance or rejection of information, information search, its interpretation, its rehearsal in active memory and retention or non-retention in long term memory, and the use of information from long term memory and from the external environment in decision making.

One of the main characteristics of the CIP approach is that it sees all the above processes as sequences of mental activities with primary emphasis on the 'cognitive' or thinking dimensions:-

'An information processing system can be defined as the nature and interdependence of conceptual rules for organising dimensional values' Haines (1974).

The most common research view of CIP sees the consumer as an information processing system whose operations are similar to those of a computer, in the sense that information is put in (received), that it is processed in an internal centre, and that something is put out (e.g. a decision is made, an attitude changed, a fact or impression is added to memory etc).

The key elements are 'short-term memory' and 'long-term memory'. Short term memory is the active processing centre for CIP; it is here that almost all of the activity takes place. LTM is the repository for accumulated experiences, facts, and impressions; it thus provides information that is readily accessible to a consumer. In addition to this role, LTM is the repository for accumulated experiences, facts and impressions; it thus provides information that is readily accessible to a consumer. In addition to this role, LTM has the crucial function of holding the structures, rules, or heuristics that the consumer will

use to guide processing activities.

For some CIP activities it is sufficient to describe the entire sequence as moving back and forth between LTM and STM. An alternative; much more common view is that CIP is triggered by exposure to an external stimulus. In this case the entry of the perceived stimulus into the STM starts a further (instantaneous) move into LTM in the search for the appropriate context and set of guidelines for dealing with the new cue. If none appears in time, or if the system is concentrating on another problem, the new stimulus will simply fade away. At the other extreme, as when a consumer is seeking information, the cue may spark considerable processing activity.

It can be seen that, according to Wilkie and Farris even perception and attention are sequences of mental activities.

Upon termination of processing activity several events can occur. Some external output is possible e.g. decision to buy, discussion with friends etc. Also some residuals of processing will be entered into LTM, examples are purchase intention and attitude change.

5.3 INITIAL INFORMATION ACQUISITION

This concerns the factors characterising consumers' 'approach' behaviours towards information. Emphasis is on the need for more information, active search for such input, effect of information sources and what information is processed. Much of the information acquisition research has been directed at understanding appropriate methods for public policy makers to provide information to consumers e.g. Wilkie and Farris 1976 - Appendix.

Explanations of information search include Maddi's (1968) 'Variety seeking approach' and also perceived risk theory (see section 6.10 which reviews perceived risk and information handling) Burnkraut (1976) proposes a theory of motivation derived from Tolman and Atkinson, applied to message processing. He proposes that the tendency to process a message will depend upon the need for information on the topic, the expectancy that processing the message will lead to exposure to information relevant to the need and the value attributed to the message source.

Other studies of information acquisition have focussed on what information is acquired. Jacoby, Chestnut, Weigl and Fisher (1976) have identified three main elements: depth of search, sequence of search and information content, which, they suggest, should be affected by individual and task environment variables. Depth of search refers to the quantity of information acquired. Sequence of search refers to acquisition order of which three broad patterns have been identified (Bettman & Jacoby 1976). These are brand processing, attribute processing and alternating brand and attribute sequences. Information content refers to the type of information used. Jacoby, Szybillo and Busato - Schach (1977) studied the amount and type of information acquired from package panels and found that consumers selected few information dimensions with brand name and price most frequently selected. Less information was selected when brand name was available this suggested that brand name served as an 'information chunk'.

Some studies have covered the effect of individual and task environment variables on the elements of information acquisition. Jacoby, Chestnut and Fisher (1978) found that increased information acquisition was related to the product's importance for the individual, to being an optimizer rather than a satisfier, to high amounts of post purchasing experience

with the product and negatively to attitudinal brand loyalty. Capon and Burke (1981) found that individuals with high socio-economic levels sought more information and were more likely to process attribute than individuals from low socio-economic levels who were more likely to process by brand or 'at random'.

5.4 INITIAL INFORMATION PROCESSING

This area considers the effect of information on the consumer, how it is perceived, if it is perceived, whether it is remembered and whether this influences intentions and behaviour. Whereas information acquisition studies the consumer active in his environment, seeking particular items of information, initial information processing typically sees him in a passive sense as an information recipient. This area is concerned both with how sought information is perceived and also with how unsought information is perceived, in particular advertising information. Much of the area of concern is covered by advertising research and there is a large body of applied research available. Note the aim of the advertising research was to understand the effect of advertising rather than to develop an understanding of information processing. Thus 'hierarchy of effects' models (e.g. Lavidge and Steiner 1961) and Krugman's 'Low involvement' concept could be classed as initial information processing models. Some other issues of concern in this area are effect of credibility of source variables, attractiveness of source variables, type of message appeal, order of presentation of message etc. See Ray M.L. (1974) for a review of this area.

5.5 INFORMATION INTEGRATION

This area is described as central information processing in some sources e.g. (Hughes 1974).

Here the focus is on the use of information to make decisions and the independent rules or strategies used by the consumer to integrate informational cues.

For the purpose of these studies information is defined as a set of perceived multi-dimensional attributes of a stimulus. The consumer is seen as having data on specific attributes for the alternatives involved

in a choice setting. The term information processing can then be interpreted as the manner in which the consumer manipulates the object by attribute matrix in making a decision.

Models of information processing include linear compensatory, conjunctive and disjunctive in which processing is by brand and lexicographic, sequential elimination and elimination by aspects in which processing is by attribute. For a discussion of these see Wright (1973) or Bettman (1979) pages 179 to 185. Note that Bettman terms these strategies heuristics.

Methods of studying these strategies include the inferential approach e.g. Einhorn (1970). Respondents are asked to provide scale values for their beliefs or evaluations for each attribute for a set of known brands and an overall preference measure for each alternative. The researcher then uses some mathematical or other manipulation (corresponding to the choice strategy of interest), on the attribute ratings data to obtain a predicted preference measure. The researcher can then correlate the predicted and actual evaluations. The choice strategy yielding the highest such correlation is held to be supported. A second type of correlational approach uses an active evaluation task. Subjects are given hypothetical alternatives, with each alternative being characterised by a given set of scale values. The subjects rating of each alternative is compared with the rating predicted by each choice strategy in the same way as for the inferential approach. The first method is based upon information stored in memory, the problem with this is that we cannot tell whether the decision made was also based on memory or did involve a decision strategy. The second method is based on external information; in this case information from memory is not included in the evaluation which may not be realistic, but may allow experimental study of the decision process. The behavioural process method (see section 5.8) has also been used to study information integration. Before describing this it is necessary to stress that information integration refers to the way information is combined in decision making whereas information acquisition refers to the way information is acquired. In the past some behavioural process studies have blurred this distinction, assuming that the first item of information to be acquired must be the most important attribute in the decision and so on i.e. they have blurred the distinction between

attribute value and search value (e.g. Jacoby, Szybillo and Busato-Schach 1977). Jacoby, having noted this, has attempted to solve the problem. In Sheluga, Jaccard & Jacoby (1979) attribute values for items searched are used to predict decisions and attribute values are compared with search values. This may make behavioural process studies of information integration more effective.

Another problem noted by Bettman (1979) p. 197 is that the behavioural process approach does not take account of internal memory search operations (if any) going on in parallel with the explicit search through the matrix and that use of brand as an item of information may elicit items of information from memory that cannot be measured. Thus this method may not include all items used in the decision process.

Results of various studies show no clear dominance of any one of the processing strategies. Bither & Ungson (1975) suggest that strategies vary by consumer and Raju & Reilly (1980) postulate that any one consumer is likely to employ several strategies depending on his familiarity with the product class. Bettman (1979) proposes that strategies employed will depend upon the strategies known to the individual, his processing abilities, product familiarity and he also proposes that the structure of the choice environment will influence the strategy chosen. Bettman distinguishes between two ways in which information processes may be implemented, one is the stored rule method in which strategies (heuristics) are stored in memory and implemented in their entirety when needed. Second is the constructive method in which rules of thumb are developed at the time using fragments or elements of rules stored in memory in this case several different heuristics may be combined in a decision process.

5.6 DECISION NET RESEARCH

This is both a research method and a model of decision making, as noted above, Wilkie and Farris (1976) classify it as a research method.

This approach to information processing is based on the viewpoint that a good way to understand decision processes is to start with individual subjects and build detailed models of the choice heuristics used by these individuals in specific choice situations; that is, an individual may have certain rules or heuristics for combining and manipulating informa-

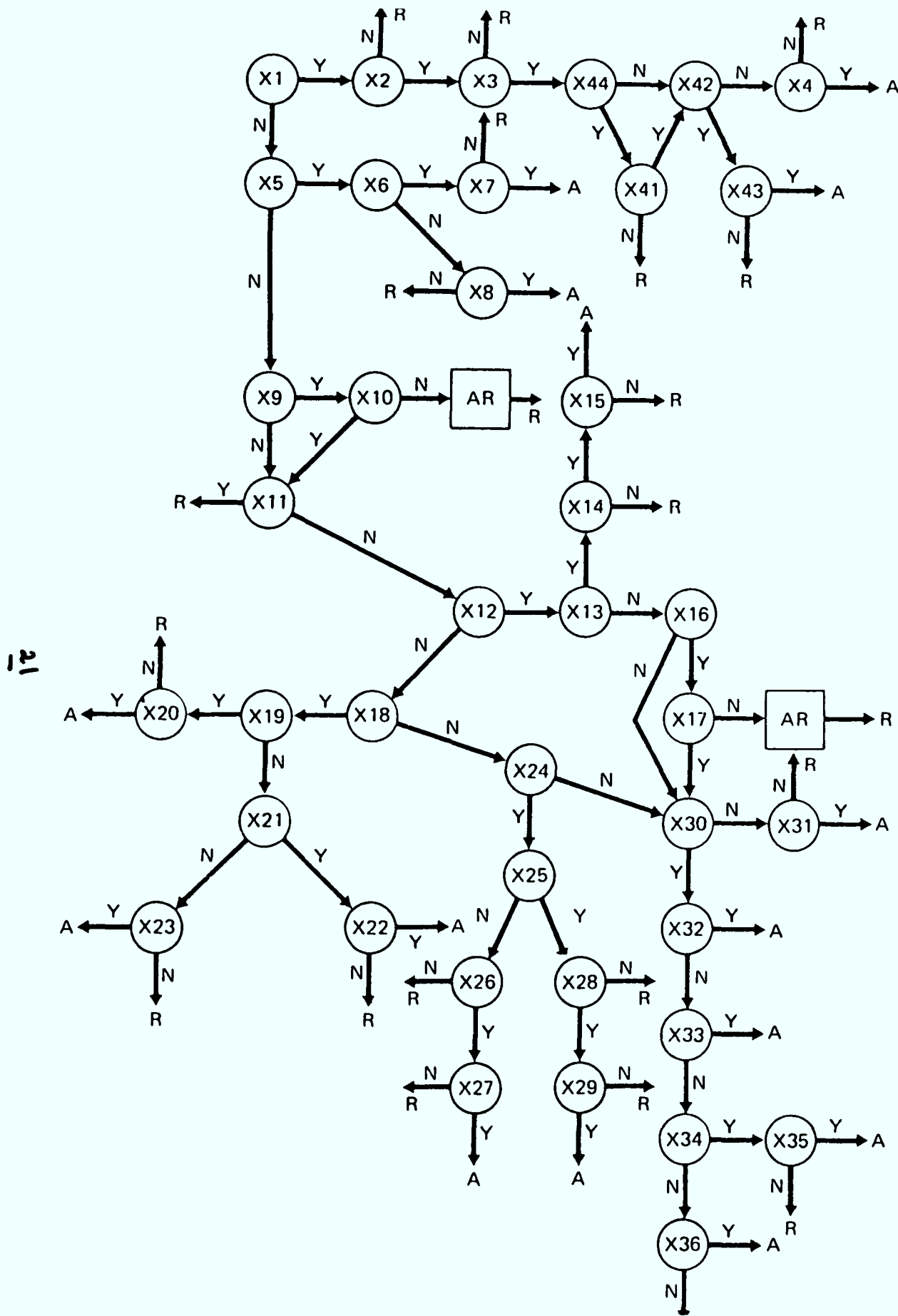
tion in making choices, and a model of these decision processes would actually depict all the detailed heuristics used. In psychology this work was started by Newell, Shaw and Simon (1958) and there have been studies of this type carried out in many fields.

The method used to study consumer choice using decision nets is to have a subject perform the consumer choice behaviour of interest, and to have the consumer think out loud as he or she is doing so. This verbal record is called a protocol and should be distinguished from retrospective questioning of the consumer about the decision. Given these protocol data a model of how the consumer makes a choice is developed. The model is a decision net, the attributes or cues are arranged in a branching structure. The order in which attributes are examined is ordered by the path structure of the net. Each examination criteria has a yes or no answer and is based on whether the level of an attribute is satisfactory e.g. 'Is it sweet enough?' or whether or not a certain condition is met e.g. 'Is it in store?', 'Does it have flouride?'. The yes or no answers determine whether the brand is rejected or whether processing continues until the brand is eventually accepted if all criteria are met. Thus the model assumes that the consumer processes a brand at a time - which is not always the case as consumers sometimes process by attribute (Capon and Burke 1981).

Some examples of decision net research in consumer behaviour are Alexis, Haines and Simon 1968 in which individual women's purchasing of raincoats was modelled and Bettman (1970) in which two housewives food shopping decisions were modelled. In the Bettman study a model was produced for each housewife, the model was to predict all her food shopping decisions. Each housewife's model was different. The models when tested did in fact predict 87% of the choices recorded. These models are more complicated than the Haines model and Yes/No responses may both lead to further processing i.e. there is not a single branch structure. See fig. 5.1 for an example.

These models are very idiosyncratic. Studying the individual may enable us to understand decision making better but we may not be able to predict group behaviour. Bettman discusses possible techniques for identifying general patterns from individual decision nets in Bettman (1979) page 256.

SOURCE: BETTMAN (1979)



Key

- A: Accept
- R: Reject
- AR: Associate risk (bad experience) with this product
- Y: Yes
- N: No

- X1: Is this meat or produce?
- X2: Is price below justified level?
- X3: Is color okay?
- X4: Is this the biggest "okay" one?
- X5: Are these eggs?
- X6: Is the price of extra large over five cents more than the price of large?
- X7: Is this large size?
- X8: Is this extra large size?
- X9: Was this product bought last time for this product type?
- X10: Was experience with it okay?
- X11: Is risk associated with this product (bad experience)?
- X12: Is this product class high risk?
- X13: Do children or husband have a specific preference?
- X14: Is this their preference?
- X15: Is it the cheapest size?
- X16: Does this class have health (hygiene, diet) factors?
- X17: Is this okay on these factors?
- X18: Is this for company?
- X19: Is the cheapest brand good enough?
- X20: Is this the cheapest?
- X21: Had a good experience with any brands in this class?
- X22: Is this that brand?
- X23: Is this the cheapest national brand?
- X24: Are children the main users?
- X25: Did they state a preference this week?
- X26: Have they used this up in the last two weeks?
- X27: Is this cheapest size?
- X28: Is this that one?
- X29: Is this the cheapest size?
- X30: Are several "okay" brands cheapest (that they have in stock)?
- X31: Is this the cheapest (that they have in stock)?
- X32: Have a coupon for this one?
- X33: Is this one biggest?
- X34: Is there a single national brand?
- X35: Is this it?
- X36: Have I used this before?
- X37: Is this the closest?
- X41: Does this feel okay?
- X42: Is this for a specific use?
- X43: Is this size okay for that?
- X44: Is this produce?

Fig. 8.6 The model for consumer C₁. (Reprinted from James R. Bettman, 1970, *Information processing models of consumer behavior*. *Journal of Marketing Research* 7 (August): 371. Published by the American Marketing Association.)

Nakanishi (1974) pointed out some of the failings of the decision net approach, namely that decision stages were assumed to be sequential and had to be carried out in the same order each time, that the model did not respond to stimuli in the environment e.g. if the sight of an ingredients list reminded the subject to check for monosodium glutamate. The approach also assumed that the decision net was remembered in its entirety. Bettman and Zinns (1977) carried out research to test this and found that of the 1970 data about 25% could be classified as constructive i.e. formed at the time of decision and influenced by environmental factors rather than stored in memory. Bettman (1979) now accepts that constructive rules may be used in decision nets and has not yet resolved the problems that arise from this.

There seems to be considerable confusion over where decision net research fits in to information processing theory. Bettman who has done the most work on decision nets in the consumer field states in Bettman (1979) that decision nets are simply an alternative model of choice heuristics i.e. another model of information integration.

Bettman (1979) comments on the failing of decision net models to incorporate attribute processing and concludes that decision nets cannot depict certain types of choice heuristics. 'Decision nets must be augmented with other types of processing heuristics'.

5.7 THE BEHAVIOURAL PROCESS METHOD

Another approach to information processing described as 'process descriptive' or the 'behavioural process method' was developed by Jacoby and his associates at Purdue University. This research tradition involves a programmatic series of studies concerned with the process consumers use to acquire information available to them in an experimental laboratory for the purpose of making a brand choice decision from among a number of brands within a product class.

The behavioural process approach involves behavioural simulations in which subjects in experimental shopping situations are free to select as much or as little information as desired in order to make a brand choice decision. This information is available from a data array in the form of a two dimensional display board matrix which contains information on

attributes of brands. Cells in the display board contain this brand attribute information, which is concealed by cards, envelopes or a tape which subjects may lift in order to secure information. Lantos (1981) has used an interactive computer terminal to replace the display board which records responses so that an observer need not be present but is more costly in terms of resources. Much of the behavioural process research has studied initial information acquisition and is reported in section 5.3 (Jacoby, Chestnut, Weigl and Fisher 1976, Bettman and Jacoby 1976, Jacoby, Szybillo and Busato-Schach 1977, Jacoby, Chestnut and Fisher 1978, Capon and Burke 1981). Some research has studied information integration e.g. Sheluga, Jaccard & Jacoby 1979. This is reported in section 5.5 with Bettman's criticism of the relevance of this method to the topic.

Lantos (1981) has criticised this approach for not using information stored in memory. Much research literature suggests that information gathering and brand choice decision behaviours change over time as learning occurs. (See Sheth & Venkatesan 1968 reviewed in section 6.10). Lantos used a longitudinal research design where subjects made brand decisions over 9 weeks, results suggested that the number of information items sought and the time taken to process declined over time and that after 4 weeks their information requirements seemed to have been satisfied.

This highlights a general observation of CIP research that it fails to reconcile the balance between internal and external information search. This is very important when applying findings to the real world where much purchasing involves decisions where the consumer is familiar with brands.

In addition to this criticism of most behavioural process research other problems are that it is as easy to process by brand and by attribute whereas in the store processing by brand is easier, that unintentional information acquisition cannot occur, and that in the real world consumers use various media for obtaining information whereas the display board is only one medium. A strong advantage of the technique is that it measures actual behaviour rather than what people report they do, and also that it is easier to compare results across studies when a consistent technique is used.

5.8 INPUT - OUTPUT RESEARCH

These do not attempt to measure CIP activities directly. Instead, they employ classical experimental designs, using static measures of consumers before and after states to investigate the effects of CIP. This is common in advertising research where changes in consumers purchase intentions etc are compared before and after seeing an advertisement.

5.9 DIRECT MONITORING RESEARCH

This measures processing units during exposure rather than relying on summary effects after exposure. One method used is study of eye movements, an example of this is a study by Russo and Doshier (1975). Stimuli were presented to subjects as arrays on cathode ray tubes and eye movements were recorded in order to establish whether processing was by brand or by attribute.

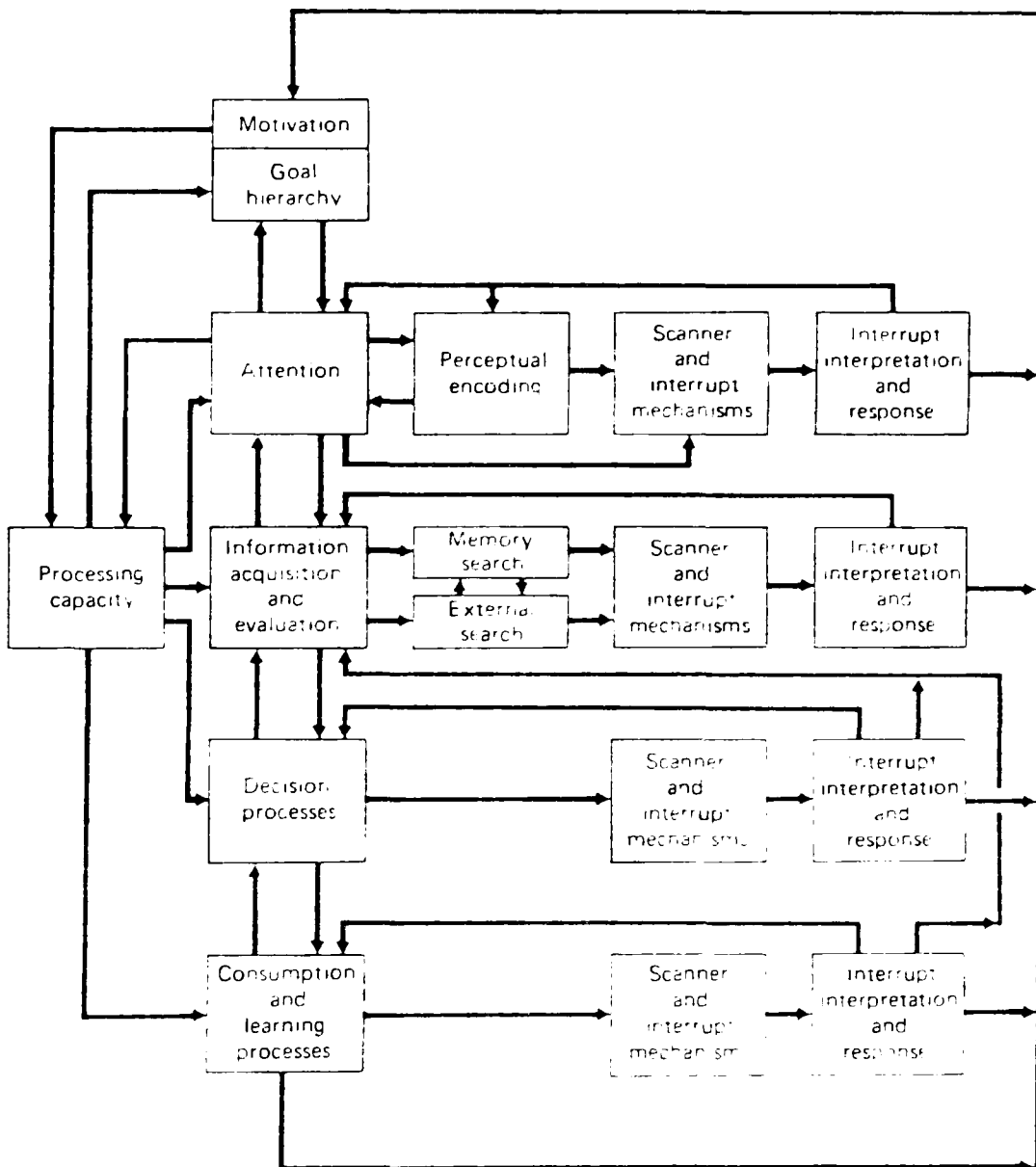
Although Wilkie and Farris describe the behavioural process method under input-output research, it seems more appropriate to describe it as a form of direct monitoring research.

5.10 BETTMAN'S INFORMATION PROCESSING THEORY OF CONSUMER CHOICE

Bettman had spent much time before producing his theory studying all the influences on consumer information processing such as motivation and memory. As this review has shown approaches to consumer information processing usually cover one area and ignore others for example little attention has been paid to the relationship between internal information search and external information search. Bettman's theory has provided an integrated approach to CIP. His book, which makes an extensive study of previous work, discusses each element of the theory in detail and makes proposals for future work based on a commentary on existing work, cannot be done justice to here so I will make a brief summary of the main points and bring out some of the most interesting developments. The basic structure of the theory is illustrated in figure 5.2.

The theory uses an information processing approach to explain consumer choice i.e the consumer is characterised as interacting with his or her choice environment, seeking and taking in information from various sources, processing this information and then making a selection from

FIGURE 5.2 BETTMAN'S INFORMATION PROCESSING THEORY OF CONSUMER CHOICE - THE BASIC STRUCTURE OF THE THEORY.



SOURCE: Bettman (1979)

among some alternatives. This interaction with the information environment may be minimal in some cases, and extensive in others. The basic components of the theory are processing capacity, motivation, attention and perception, information acquisition and evaluation, memory decision processes and learning. Choice provides the focal point in which these other elements are tied. The theory covers information acquisition, initial information processing and information integration. Consumers are depicted as having a limited capacity for processing information. This implies that in the process of comparing and making choices among alternatives, consumers do not typically undertake complicated computations or analyses, rather consumers use simple heuristics to help them in dealing with potentially complex situations. The heuristics used appear to depend on individual differences (e.g. the consumers' processing abilities); specific properties of the particular choice task being undertaken (e.g. what information on alternatives is available and how it is presented); and on the type of choice situation (e.g. amount of prior knowledge and experience). These factors are seen as exogenous.

The theory is also characterised by the use of interrupt mechanisms at each stage, this is to explain the instance when consumers are distracted and notice information which is not relevant to current goals such as something surprising or unexpected which may then alter their behaviour. This is an attempt to solve the problem mentioned in the review that current information processing theories did not allow for the effect of the information environment on processing.

In his review Bettman comments on the applicability of all the research methods mentioned in this review and on some others.

Bettman's theory is a very comprehensive attempt to integrate the theory and findings of consumer information processing which up until now have been very fragmented. It should provide a basis for future research and development of theory in this area.

5.11 RELATION OF THE PRISM MODEL TO INFORMATION PROCESSING THEORY

PRISM is an information processing model because it sees the consumer as active in her information environment rather than as a passive processor of information. The area of the model covering perceived risk/ openness to information need would be classified as information acquisition. At present PRISM measures information handling by self-report but measurement might be improved by use of Jacoby's information board techniques.

The area of the model titled 'information processing' will predict how different groups (or individuals) will process new information i.e. accept, modify or reject it. This would be classified as initial information processing.

The area of the model titled 'Buying Beliefs - decision rule on Brands bought' will contain the decision rules for deciding between brands, these would be classified under information integration.

The decision rules for making decision between products will be somewhat different from decision rules described in the literature for making brand decisions (see chapter 4) and will involve decisions about usage strategy.

CHAPTER SIX

PERCEIVED RISK: A REVIEW AND COMMENTARY

6.1 Perceived Risk and the Consumer

The summary of perceived risk in 6.1 and 6.2 has been based on Cox 1967.

A consumer faced with the decision to choose a brand from one of a number of brands or a product from one of a number of products with similar uses may perceive risk in the decision situation. For instance he may be uncertain as to the results of the purchase;- 'Will the product/brand have the effects desired?', 'Will the product/brand have undesirable effects?', 'What will his/her friends think of it?'. If the product does not have the desired effects the consumer will have wasted the money spent on it and the time spent making the purchase. However the consumer may not only lose the resources spent on purchase but a second loss is the negative effects of failure or of undesirable effects. Thus relatively cheap products such as hair-colouring or food for an important dinner party can have a high perceived risk.

Researchers have identified perceived risk in the purchase of such mundane products as dried spaghetti (Cunningham) and toilet-paper (Cunningham) and PRISM researchers have found perceived risk in the purchase of margarine and of a new alcoholic beverage. PRISM researchers then went on to test whether perceived risk could be identified in the purchase of other low price, non-durable products which is the subject of this piece of research.

The amount of perceived risk that an individual feels when considering a purchase decision will depend on the amount of confidence he/she has in the result, the importance of the goal to be attained, the seriousness of the penalties that might be imposed for non-attainment and the amount of means committed to achieving the goals.

6.2 Risk Handling and the Consumer

Research suggests that for each person there is an acceptable level of risk in a decision situation and when that level is exceeded the individual acts to 'handle risk' - usually to reduce risk. Some forms of risk handling are to reduce the goals one wishes to attain

from the purchase e.g. by restricting hopes; to reduce the means by which the gain is to be made e.g. by buying the cheapest or smallest pack; and to reduce the penalties that might be incurred e.g. by using a cleaner on an unimportant garment first or by testing an ingredient before serving to friends. These methods aim to reduce the consequences component of perceived risk. Risk handling also includes many ways to reduce the uncertainty component of perceived risk e.g. always buying the same brand or brand set, buying 'household name' brands, using a well known store, and buying an expensive model. Many methods of uncertainty reduction involve use of information which is of especial interest to the PRISM model. Information handling includes talking to friends and salesmen, reading consumer magazines, reading labels and advertising etc. It should be noted that although information is sought in situations of uncertainty it does not always decrease uncertainty it may actually add to it.

6.3 Areas Covered by Perceived Risk Research

Since the concept of consumer perceived risk was introduced by Bauer (Bauer 1960) the concept has been related to a variety of consumer behaviour topics. Sections 6.1 and 6.2 give an idea of how these topics are related to perceived risk. Examples of the work done include:- store-selection (Hirsh, Dornoff & Kernan 1972), information handling (Cox ed. 1967), brand loyalty (Cunningham 1967) personality (Horton 1979) brand-choice (Peter and Tarpey 1975), comparison of risk reduction strategies (Roselius 1971).

6.4 Contents and Extent of this Review

The review was originally intended to cover all of the above subjects before focussing on the relationship between perceived-risk and information handling which is one of the subjects of PRISM research. However on reading the perceived-risk literature severe problems of conceptualisation and validation were found. This meant that it was very difficult to compare the results of a particular study. It was therefore decided to devote the main part of this review to clarifying the conceptualisation and measurement of perceived risk. This would provide information on how the PRISM concept of perceived risk and PRISM measurement techniques compared with those of other research. This has been done by giving a resumé of some of the most important research papers in the field in section 6.5 to 6.9. In section 6.10 there is a summary of research results in the area of perceived risk and information handling. In section 6.11 there is a critical review of the preceding papers. Jacoby's paper 'Consumer Research: A State of the Art Review' (1978) is used as a source of criteria for assessing the research. These criteria are summarised in Appendix II. Section 6.12 is a summary and also contains suggestions for improving conceptualisation and measurement of perceived risk and conclusions on to what extent future research can be based on perceived risk.

6.5 Bauer, Cunningham and Cox

The concept of consumer perceived risk was introduced in a paper by Bauer in 1960 (Bauer 1960) and over seven years Bauer and his

colleagues at Harvard Business School investigated this concept. They published their findings jointly in 1967 (Cox ed. 1967). The work of Bauer and his colleagues, particularly Cunningham and Cox, has formed the basis for much of the work on perceived risk carried out since.

Bauer hypothesised that:- 'Consumer behaviour involves risk in the sense that any action of a consumer will produce consequences which he cannot anticipate with anything approximating certainty, and some of which at least are likely to be unpleasant'.

He went on to further hypothesise that:- 'Consumers characteristically develop decision strategies and ways of reducing risk that enable them to act with relative confidence and ease in situations where their information is inadequate and the consequences of their actions are in some meaningful sense incalculable'.

Bauer suggested that some of these decision strategies could be brand loyalty, use of opinion leaders and prepurchase deliberation.

Some of Bauer's suggestions were based on an exploratory study - a series of intensive interviews with two housewives which were carried out by Cox in 1959 and 1960 and which revealed some interesting decision making patterns and suggested that risk was perceived for some quite mundane products such as toilet paper (Cox 1967 a.).

By the time of the publication of the joint findings in 1967 the theory had developed considerably. The work reflected Bauer's view that the consumer plays an active role in the communications process and may actively seek out information for which he perceives a need. Cox the editor stated that:- 'our research has been concerned with the interaction of consumer characteristics with information characteristics on consumer information handling' (Cox 1967 b).

Of these consumer characteristics perceived risk was the chief concept studied but not the only one (others included generalised self-confidence).

The work was based on two convictions as stated by Cox:-

'(1) Consumer Decision making is a form of problem solving activity in which a consumer attempts to identify product performance and psychosocial buying goals, to define gaps between goals and existing

states, and to match these goals (or goal-state gaps) with product or brand offerings, all with a degree of perceived risk (uncertainty and consequences) which is tolerable and desirable to the consumer.

(2) In order to resolve the problems, consumers acquire (sometimes transmit) and process information - the ultimate value of which is a direct function of its ability to modify uncertainty e.g. to predict the relevant consequences of consumer acts.'

Further elaboration of the information handling aspects of the theory will be covered in section 6.10.

As regards conceptualisation Cox gives a fairly flexible definition of perceived risk, paraphrased thus; In every buying decision, a consumer attempts to identify buying goals and to match these goals with product or brand offerings. Risk is a function of two elements, uncertainty and consequences. The uncertainty may be in regard to identifying buying goals or in connection with matching goals with purchases. The uncertainty is subjective uncertainty. The consequences may relate to performance goals or to psychosocial goals and to the means invested (money, time and effort) to attain those goals. Cox reached no conclusions on how the components of perceived risk are combined and suggested that this should be further researched.

Cunningham (1967) another of the Harvard researchers did produce an operational measure of perceived risk which has been used by other researchers and his work will now be described.

Cunningham used the conceptual definition of perceived risk given above. To operationalise this he needed to measure the perceived uncertainty of a given event happening and the consequences involved if the event should happen.

One question per concept was used. To measure certainty the following question was used:-

'Would you say that you are: very certain; usually certain; sometimes certain; or almost never certain that a brand of _____ you haven't tried will work as well as your present brand?'

To measure consequences the following question was used:-

'We all know that not all products work as well as others. Compared with other products, would you say that there is: a great deal of

danger; some danger; not much danger; or no danger in trying a brand of _____ you have never used before.'

As Cunningham had no hypothesis about how the components should be combined he used an arbitrary method. The two questions relating to perceived risk were each collapsed from a Four point to a Three point scale, and a numeric value was assigned to each point on the scale (To obtain more gradations would have resulted in inadequate cell sizes in one or more perceived risk categories). The numeric values were then multiplied together in a matrix and each cell was thus given a specific weight that was used as the basis for ordering the combined index.

As mentioned the combination and weighting of components were arbitrary. In addition seven alternative PR scales were constructed giving different weights to the two factors involved.

In order to examine the content of perceived danger respondents were asked:-

'What problems or danger might you find in using a brand of _____ that you have never used before?''.

The products used in the survey were headache remedies, fabric-softener (then a new product) and dry spaghetti. A telephone survey was made of some 1,200 housewives in a mid-western city. It should be noted that only users of the product were included.

The results supported the hypothesis that consumers can perceive risk in products, that perceived risk varies by product and that consumers could rate the products in terms of risk. 24% of headache remedy users perceived high risk, 6% of fabric-conditioner users and 1% of dry spaghetti users.

Results also suggested that perceived risk, certainty and consequences appear to vary in their interaction with each other by product category and that each product has a unique set of specific consequences (dangers) associated with it - expressed in response to the second dangers question.

Attempts to relate perceived risk to a wide variety of other variables were almost totally unsuccessful though Cunningham does mention that the data suggested high risk perceivers use more sources of new product information but no results are given.

None of the seven P.R. weighting scales stood out in terms of relationship with product related discussion or brand loyalty, so Cunningham advised that the unweighted model be used.

6.7 Deering and Jacoby (1972)

Deering and Jacobys' work published in Deering and Jacoby (1972) is summarised in the paper by Stem, Lamb and MacLachan (1977).

Respondents were asked to rate products on each of the ten questions shown in the table below. Product ratings for the ten questions were then used to compute three different composite measures of perceived risk. The first measure, CM-1, used the two questions developed by Cunningham to measure danger (question 2) and uncertainty (question 1). The ratings are combined multiplicatively so that $CM-1 = (q1 \times q2)$. This algorithm is identical to Cunninghams original measure of perceived risk. The second measure combines questions 3,4 and 5; again it is multiplicative:-

$$CM-2 \quad ((q3)(q4 + q5)/2)$$

Here question 3 measures confidence and questions 4 and 5 measure importance of consequences.

The third measure combines measures of consequences, uncertainty and the degree and type of purchase goal involved. The computation used was:-

$$CM-3 \quad ((q4 + q5)/2) \quad ((q6 + q7 + q8 + q9 + q10)/5)$$

Finally all three measures were combined into one measure. This measure was used to rank products by risk classes. The correlation coefficients between the three risk ratings were $r = .87$ or higher.

Deering and Jacoby: Questions Measuring Perceived Risk

1. How certain are you that a brand name of this product you haven't tried will work as well as your present brand?
2. We all know that not all products work as well as others; compared to other products, how much danger would you say there is in trying a brand of this product that you have never used before?
3. How confident would you say you are about judging the quality of the product?
4. Buying a product that gives you good results may be more important for some products listed than for others. How important would you

say it is for this product to satisfy you?

5. The investment you make when you buy a product includes your time and energy as well as money. In terms of the time, money, and overall effort required to buy this product, how much would you say you invest?
6. Can most shoppers guess ahead of time how dependable this product will be if it is used over and over again?
7. Before buying this product, can almost anyone tell how good its materials are and how well it is put together?
8. Can almost any shopper predict what the bad results will be if this product fails?
9. In general, does this product tend to fulfill your expectations?
10. Is it obvious why someone like yourself would want this product?

6.8 Peter & Tarpey (1975) and Peter & Ryan (1976), Bearden & Mason (1978)

Peter & Tarpey used a two part measure of perceived risk, but they differed from Cunningham in their conceptualisation as they used probability of loss instead of uncertainty (this will be discussed in Section 6.11.c.). The two components were probability of loss and importance of loss. The perceived risk in buying a brand of motor-car was measured.

The two components were measured for the six types of loss hypothesised by Jacoby & Kaplan (1972) namely financial, performance, physical, psychological, social and time (convenience) loss. An example of the questions used to measure probability of loss is given below, the example is for social loss.

I think that it is:-

Improbable	Probable
1 2 3 4 5 6 7	

that the purchase of a (brand name) would lead to a social loss for me because my friends and relatives would think less highly of me.

Importance of loss measured thus:-

As far as I'm concerned if this social loss happened to me it would be:-

Unimportant	Important
1 2 3 4 5 6 7	

Probability and importance for each statement were multiplied and then the results were summed.

Thus the final formula for calculating perceived risk was:-

$$OPR_j = \sum_{i=1}^n (PL_{ij} \cdot IL_{ij})$$

$i=1$

OPR_j = overall perceived risk for brand j

PL_{ij} = probability of loss i from the purchase of brand j

IL_{ij} = importance of loss i from the purchase of brand j

n = risk facets

Peter & Tarpey hypothesised that perceived risk would predict brand preference. The overall perceived risk scores were correlated with

brand preference.

Peter & Ryans' paper reports a second method of operationalising risk, the difference from Peter & Tarpey being that a segmented model was used instead of a multiplicative one.

Importance of loss was used as a segmentation variable and respondents were split into a high importance of loss group or a low importance of loss group by ranking according to importance scores and dividing at the median. It seems that the importance of loss segmentation was taken as an overall measure over the six types of risk.

The resulting formula for calculating perceived risk was:-

$$BP_{ij} = \sum_{K=1}^n PL_{Kij}$$

Where

BP_{ij} = preference for brand i by market segment j

PL_{Kij} = probability of loss K for brand i expected by market segment j

i = brands

j = market segments based on importance of losses

n = facets of perceived risk

NB A direct relationship between perceived risk and brand preference is assumed.

Data was collected from 217 business administration students at a university and 210 usable questionnaires were obtained.

Some of the results of the study were that a significant relationship between both multiplicative and segmented perceived risk models and brand preference was found. The summated perceived risk model was correlated more highly with brand preference than was the multiplicative form for the high importance segment but not for the low importance segment. Peter & Ryan inferred that perceived risk may be a predictor of brand preference only in market segments that perceive losses as important.

Peter & Tarpeys' operational model of perceived risk was utilised by Bearden & Mason. They tested the measure of perceived risk in an area where perceived risk may play a crucial role namely in purchase decisions between generic (non-branded) and non-generic (branded) drugs.

Following Peter & Tarpeys' hypothesis that risk perception could predict brand preference they hypothesised that choices between generic and non-generic drugs could be predicted by the measure. A survey of 105 households in a university community was carried out. Using the Peter & Tarpey model Bearden & Mason found that perceived risk explained 25% of variation in consumer preferences for generically prescribed drugs.

6.9 Bettman

Bettman's papers of 1973, 1974 and 1975 describe a programme of research in which a measure of perceived risk devised by Bettman was compared with Cunningham's risk measure and was used in analysis of the components of perceived risk. Bettman also introduced the concepts of inherent and handled risk.

Bettman (1973)(1974) collected data from 123 housewives including students wives in an area near the university. Bettman (1975) carried out tests in an experimental situation on 60 students.

Bettman's operational measure of perceived risk differs considerably from that of Peter & Tarpey and Cunningham in two main respects. Firstly, whereas other sources break-down perceived risk into its components initially and then build up a multi-faceted construct, never actually measuring overall perceived risk directly, Bettman attempts to measure overall perceived risk and then to split it into its components. Secondly, Bettman hypothesises two types of perceived risk:-

Inherent risk is the latent risk a product class holds for the consumer, the innate degree of conflict a product is able to arouse. This means the amount of risk involved in buying a product when no brand information is available.

Handled risk is the amount of conflict the product class is able to arouse when the buyer chooses a brand from the product class in his usual buying situation. For example a consumer may feel there is a great deal of risk associated with aspirin as a product class but if he knows that one or more brands are reliable there is little risk in the brand choice situation i.e. little handled risk.

To measure overall perceived risk Bettman used an extended paired comparison of nine products which included margarine and fabric conditioner. Respondents were asked to choose which product in a pair was the 'most risky' on a 10 point scale. To distinguish between inherent and handled risk the inherent risk situation was created by asking respondents to imagine that they were in an imaginary store where all brand labels were covered. The handled risk situation was created by asking respondents to rate risk in terms of shopping in their usual store where brand names could be seen.

Bettman then tested whether his new measurement of perceived risk was comparable to previous measures by comparing it to the Cunningham measures. Bettman's questionnaire had included measures of Cunningham's components of perceived risk, adapted to ten point rating scale format. Correlations of Cunningham's certainty component with inherent risk for the nine product types ranged from $-.10$ to $-.53$ with a value of $-.37$ for the data pooled over product types. The correlations of Cunningham's danger measure with inherent risk ranged from $.26$ to $.57$ with the pooled data yielding a correlation of $.45$. Bettman claimed that these results gave validity to the measure.

Once satisfied that his perceived risk measure did have some validity, Bettman proceeded to investigate the components of perceived risk. Using the overall handled and inherent risk measures as dependent variables Bettman then carried out regressions of several hypothesised components of risk. Bettman hypothesised that the independent variables (risk components) for inherent risk should be the percentage of acceptable brands (a negative relationship) the importance to the buyer of making a satisfactory brand choice within the product class (a positive relationship) and perceived price paid (a positive relationship). Independent variables for handled risk should be inherent risk (a positive relationship) and the amount of information available (a negative relationship). Linear, multiplicative and disjunctive models were tested on the nine different product classes. The importance of making a satisfactory brand choice was positively correlated with inherent risk for all nine product types using all three models. The negative relationship between percentage of acceptable brands and inherent risk was also supported (eight out of nine product types). The positive relationship between inherent risk and perceived price paid was not supported - Bettman suggested that this could be because the perceived price measure reflected more than just the resources used on the purchase. In determining handled risk the positive relationship between inherent risk and handled risk was supported (for all nine products) as was the negative relationship between amount of information available and handled risk.

For the inherent risk models importance was the dominant variable which suggested to Bettman that for grocery products uncertainty is fairly low.

Bettman found that the linear models fitted slightly better than the multiplicative. In Bettman (1975) he used an experimental approach to study how the components of perceived risk were combined. The method used was to present the subjects with different levels of Percentage Brands Acceptable and Importance of Brand Decision (for the Bettman task) and Certainty and Danger (for the Cunningham task) then to measure how 'risky' they thought this hypothetical decision situation to be. The experimental methodology used by Anderson (1974) was used to determine how the information was integrated to arrive at the overall risk level.

If the correct formulation for the Cunningham model was multiplicative then there should be greater effects of uncertainty at higher levels of danger. However in the Cunningham model the danger scale seemed to dominate. When there was a great deal of danger certainty did not seem to matter to subjects in assessing risk.

The results from the Bettman model were ambivalent.

6.10 The Relationship Between Perceived Risk and Information Handling

Cox (1967b) proposed that 'the amount and nature of perceived risk will define consumer information needs, and consumers will seek out sources, types, and amounts of information that seem most likely to satisfy their particular information needs,'

Cox also proposes that:-

'If we know something about the nature and amount of risk perceived by the consumer, it will help us understand and predict how and why she acquires, transmits, and processes information while solving problems associated with consumer decision making.'

Cox includes among consumer information sources, marketer dominated channels (product, pricing, packaging, promotion, advertising, etc), Consumer dominated channels (word of mouth) and neutral information channels (consumer reports, articles, etc) he also includes the consumer's own memory as an information source. He argues that brand-loyalty is a way of using memory-stored information.

The following evidence for the link between consumer information handling and perceived risk is cited by Cox. Cunningham (1967c) in analysing survey data on 1200 housewives has demonstrated that word of mouth activity is likely to be highest in product categories that consumers generally agree are risky. (Products included in the study were headache remedies, fabric softener and dry spaghetti). If a consumer perceives high risk in any product category she is more likely to engage in informal conversations about that category. Cunningham also demonstrated that consumers high in perceived risk were more likely to initiate product related conversations, and when they did, were more likely to request information from others. Similarly, Arndt (1967) found that high perceived performance risk respondents who adopted a new coffee brand, were $1\frac{1}{2}$ times more likely to have requested information or overheard comments prior to purchasing than were adopters low in perceived risk. However, Arndt also found that respondents who perceived risk with regard to coffee were no more likely to be exposed to word of mouth about a new brand of coffee than other respondents. Arndt discovered two reasons for this. In the first place, high perceived risk consumers were less likely to be interested in the new coffee since they tended to be much more brand loyal and

much less likely to adopt the new brand. Therefore they has less motivation to seek information. Arndt also found that low risk perceivers had more friends than high risk perceivers, hence had more opportunity to talk.

Other evidence cited by Cunningham are Menzel and Katz (1955) who found that word of mouth was more important to doctors in choosing drugs in conditions where the effectiveness of therapy is difficult to judge. Coleman, Menzel and Katz (1959) found similar results in cases involving unfamiliar illnesses.

This evidence suggested that consumers high in perceived risk will be more likely than those low in perceived risk to be exposed to (and likely to seek) consumer communications (word of mouth) if they have a possible interest in buying a particular brand or product, and if they are sufficiently 'sociometrically integrated' to have someone to talk with.

With regard to the amount of information required:- the direct measures cited by Cunningham offered no support for the hypothesis that those high in perceived risk would try to obtain more information than those low in perceived risk (Cunningham 1967c, Arndt 1967). Both these measures concerned the number of word of mouth communications sought. Cunningham suggests that although high perceived risk respondents are more likely to utilize consumer information channels, they do so efficiently and 'keep at a minimum the discussion necessary to reduce perceived risk.'

This is the total amount of evidence cited by the Harvard researchers in Cox ed. for the relationship between perceived risk and information handling. Since the publication of this work this literature review has found few studies to test the relationships further. It seems that the relationship has such appealing face validity and the relationship has been so often stated that most commentators have taken the relationship as proven. For example in his extensive summary of the consumer behaviour literature Turnbull (1980) writes in his section on perceived risk 'The main risk-reducing technique used by the consumer is to seek increased information about the contemplated product in order to determine which products best satisfy his buying goals'. Turnbull does not refer to evidence to support this, but does quote

Bauer (1967) whose paper was a statement of hypothesis not of results.

There has been one very important paper published on perceived risk and information handling, that of Sheth and Venkatesan (1968). This review considers that paper to be very important a) because it examines relationships between different risk handling techniques b) because it is a dynamic study and examines the intensity of risk-reduction processes over time c) because it is soundly based in the theory set out in Cox ed. Sheth and Venkatesan consider ways in which consumers can reduce the uncertainty component of perceived risk. There appear to be three major ways to reduce the uncertainty of making a purchase decision from several brands in a product class (1) information seeking, particularly from informal, personal and buyer-orientated sources such as friends, reference groups, and family; (2) prepurchase deliberation enabling the buyer to digest information and structure his cognitions related to alternative brands; and (3) reliance on brand image - if one exists - which may create brand loyalty. If brand image does not exist he may reduce uncertainty by actual purchase experiences.

Sheth and Venkatesan argue that the order and combination in which these processes are used should be investigated. They also criticise existing research on risk-reduction for being based on measurements at one point in time. In their opinion the intensity of risk-reduction processes such as information seeking, prepurchase deliberation, and brand-loyalty changes over time. Because risk-reduction processes generate decision rules or heuristics for the buyer, repetitive decisions in the same situation become extremely important.

Sheth and Venkatesan hypothesise that:-

- a) information seeking from informal sources should diminish as the buyer gains experience
- b) brand loyalty should emerge over time if brand-image exists
- c) prepurchase deliberation should reach a minimal level
- d) decision making should be programmed or routinised

If this is true risk-reduction decision rules derived from one point in time that are generalised to the complete phase of decision-making from problem-solving to routinization will be misleading.

Sheth and Venkatesan tested their hypothesis using an experimental simulation of buying behaviour. The product used for the study was hair spray as tests found it had the highest perceived risk of personal-

care products. The subjects were 65 (Final number) female students who were volunteers.

Two groups were created by controlling the uncertainty of consequences of the choice decisions. The 'high risk group' were allowed to choose between three relatively unknown brands, the 'low risk group' between three relatively well known brands. It should be noted that the division into high and low risk was not by individual perception of risk but by the nature of the decision situation. This seems justified as a chi-square analysis of respondents' perceived risk ranking for ten products indicated that the groups did not differ in the risk perception associated with hair spray.

All subjects were allowed to choose one brand from three every week for five weeks and each week they were asked sources from which they sought information, an estimate of the time taken to reach a decision and the amount of time spent to gather information.

Results showed that the average time of purchase deliberation declines with repeated decisions for both groups and the high-risk group engaged in more pre-purchase deliberation. The low risk group sought information from personal sources significantly less than the high risk group. There was no difference between the two groups in seeking information from non-personal sources. Repeat selection of brands increased over time in both groups but was slightly greater at each stage for the low risk group. In both groups information seeking and pre-purchase deliberation declined over time whereas repeat purchasing increased; this indicated that prepeat purchasing was becoming the main method of dealing with uncertainty vis a vis information seeking and pre-purchase deliberation.

Unfortunately due to the exploratory nature of this study it is impossible to conclude too much from the results.

A study by Ring, Schriber and Horton (1980) considered much the same variables as the Sheth and Venkatesan study and used the same technique of controlling the perceived risk situation. However the 1980 study did not refer to the previous work and it is assumed that the 1980 study was not influenced by the 1968 study.

Ring, Schriber and Horton hypothesised that:-

- 1) Subjects will acquire more information in high risk situations than in low risk situations.
- 2) Total time acquiring and processing information will be greater in high risk situations than in low risk situations.
- 3) Subjects will choose brands made by well known manufacturers more frequently in high risk situations than in low risk situations.

In justifying their operationalization of perceived risk it is stated 'Theoretically risk is normally defined as a multiplicative function of the negative consequences of a poor brand choice and the probability that those consequences will actually occur'. This is a misunderstanding of the theory which the Harvard researchers state has an uncertainty element not a probability element.

The product used was toothpaste. The respondents, 58 undergraduates, were allowed to access an information matrix, choosing one information cell at a time. Information included various product characteristics, price and product name. The respondents were divided into two groups high and low risk and the risk situation was varied by varying the information matrix, the information in the high risk situation had a higher probability of being negative (e.g. bad taste) and the consequences were worse (e.g. bad and fair taste compared to good and great taste). The number of information cells accessed was measured. There is a flaw in this method for the independent variable, information seeking is made dependent on the dependent variable - perceived risk. The respondents had no way of assessing the perceived risk of the situation until they had accessed a number of information cells. Also no attempt was made to check that the two groups had the same attitude to perceived risk, unlike the Sheth study.

Given the fact that the Ring et al study did not refer to a relevant previous study, misinterpreted perceived risk and had the above failings in method it is surprising that the study was a prize-winning paper in 1979 Academy of Marketing Science student paper competition.

Results of the study were that no significant difference in number of information requests was found, however total time acquiring and processing information was 75% greater for the high risk group and the high risk group chose the well known brand significantly more often. The results agree with the Sheth and Venkatesan study which found that

overall quantity of information sought did not differ between risk groups and that pre-purchase deliberation was significantly higher for the high risk group. The finding that those high in perceived risk are not more likely to seek a greater quantity of information are supported by Cunningham and Arndt. It should be noted that the three previous studies all used uncertainty as a component of perceived risk whereas in the Ring study probability was used. However, the fact that all the studies covered in this review produced the same finding strongly supports the result, namely that the quantity of information sought does not increase with perceived risk.

To summarise the conclusions to be drawn from all studies covered by this review of perceived risk and information handling:-

- a) Those high in product related perceived risk are more likely to be exposed to and seek information if they have a possible interest in buying a particular brand or product and if they are sufficiently sociometrically integrated to have someone to talk with.
N.B. This has only been demonstrated for word of mouth communications.
- b) Those high in product related perceived risk are more likely to seek information from personal sources.
- c) High risk perceivers tend to spend longer in pre-purchase deliberation.
- d) High risk perceivers do not seek a greater quantity of information.
- e) c and d suggest that consumers tend to utilise information efficiently and keep at a minimum the information needed to reduce perceived risk.
- f) The handling of perceived risk is dynamic and over time information handling may be replaced by repeat purchasing.

6.11 COMMENTARY ON PERCEIVED RISK RESEARCH

The following section will comment on the research on perceived risk. The papers which the commentary discusses in detail are summarised in sections 6.5 to 6.10. The commentary will refer to Jacoby's criteria for good consumer research which are summarised in Appendix II.

6.11.1 Theory

According to Jacoby research should be based on explicitly stated theory. The groundwork laid by the researchers at the Harvard Business School (Section 6.5) was an explicitly stated theory of perceived risk, underlying assumptions were stated e.g. that the consumer plays an active role in the consumer information process, expected relationships were stated e.g. between uncertainty and information seeking, the components of perceived risk were clearly stated to be uncertainty and consequences, areas in which the researchers had no explicit hypothesis were stated e.g. that the Harvard researchers did not know what the relationship between uncertainty and consequences was, and an operational model of perceived risk was put forward by Cunningham. Many of the hypotheses were based on in depth interviews by Cunningham with two housewives. It seems justified to base initial hypotheses on in depth interviews.

Once a theory has been stated one would then expect researchers to carry out systematic research to test the concepts and relationships put forward, but this has not been the case. Researchers have failed to build on what was a clearly laid down groundwork for research. For example Cox stated: 'In order to resolve the problems (of decision making under perceived risk) consumers acquire...and process information- the ultimate value of which is a direct function of its ability to modify uncertainty e.g. to predict the relevant consequences of consumer acts'. This hypothesis has not been directly measured in any research which the reviewer has seen reported. It could be argued that researchers have been too eager to create new operational measures of perceived risk before those initially proposed have been validated. Sometimes the use of new measures has been argued from existing theory e.g. Peter and Tarpey; Sheth and Venkatesan. Sometimes the new measure has been validated by comparison with Cunningham's measure e.g.

Peter and Tarpey, Bettman. At other times the existing theory has actually been misinterpreted e.g. Ring, Schriber and Horton.

Whether or not the new measures are in fact better measures of perceived risk the proliferation of conceptualisations has certainly made generalisation more difficult and has hindered the process of validating theory. The proliferation of measures of concepts is criticised by Jacoby.

The Harvard researchers clearly stated priority areas for research but in many cases these suggestions have not been used in subsequent research. In particular the Harvard researchers saw the link between perceived risk and information processing as intrinsic but this has rarely been followed up, perceived risk being taken out of its information processing context. One area in which research has developed has been in determining the relationship between the components of perceived risk (Bettman, Peter and Tarpey).

6.11.2 The Decision Situation

The Harvard researchers proposed their theory in the context of choosing a brand from a number of brands of one product. Many other researchers have also placed their consideration of perceived risk in this context (Bettman, Deering & Jacoby, Sheth & Venkatesan), however, some researchers have considered the perceived risk of buying a particular brand. (Peter & Ryan, Bearden & Mason) this is putting the hypothetical situation; 'If I had to buy brand X I would perceive so much risk in the situation'. This point is important and will be returned to below.

In his studies Bettman highlighted an important aspect of the decision situation which had not been brought out previously. Bettman distinguished between handled risk:- the amount of risk the product class is able to arouse when the consumer chooses a brand from the product class in his usual buying situation, and inherent risk:- the amount of conflict the product class is able to arouse when no brand information is available and a decision must be made. If we apply this criteria to the reviewed research we see that Cunningham's danger component (danger in trying a brand you have never used before) imposes the inherent risk situation on the respondent. This is also true of the Deering & Jacoby measure. Peter & Tarpey have shown that

their loss measure is a measure of inherent risk (it did not vary significantly over brands). Ring, Schriber and Horton's measure also considers inherent risk because although known brands are used the brand information is totally spurious. Sheth and Venkatesan on the other hand tend more to a handled risk situation, although their selection of only three brands from the consumers repertoire limits the choice from their normal handled risk situation. The choice between three known brands is certainly a limited case of handled risk, it is arguable whether the choice between three unknown brands (which could be examined before purchase) is an inherent or handled risk situation. Bettman's concept of handled risk fills a gap in previous work and has face validity with the real life brand choice situation. Sheth and Venkatesan's work suggests that prior experience of brands limits information seeking and as real life brand choice situations almost always involve prior experience of some brands it seems important to consider handled risk when applying perceived risk to real life situations. However the inherent risk situation also has a role to play in research as the inherent risk situation excludes some variables such as prior experience, brand name, reputation of store etc., and it may be easier to identify the relationship between perceived risk and information seeking without the intervention of other variables. Note, that Jacoby would not agree with this argument, holding that one cannot consider one or two variables in isolation when researching a complex multi-variate world.

6.11.3 The Components of Perceived Risk

Perceived risk was originally defined as containing an uncertainty component and an importance of loss component. This conceptualisation has been followed by Cunningham, Cox, Deering and Jacoby and Sheth and Venkatesan.

Other researchers have used a probability component instead of an uncertainty component. Probability of loss involves knowledge of the odds e.g. an 80% probability of loss, whereas uncertainty can mean that the chance of loss is not known. In the probability of loss conceptualisation the higher the probability of loss the higher the perceived risk, the greatest perceived risk being 100% chance of loss.

In the uncertainty of loss conceptualisation the greater the uncertainty the higher the perceived risk, the greatest perceived risk being extreme uncertainty as to result.

The probability of loss concept was used by Logan and Wallach (1964). However, Cunningham argued that an uncertainty component should be used instead as known probabilities are rare in consumer decisions.

Peter and Tarpey use probability as a component and argue for its use in this way. 'If perceived risk were equivalent to uncertainty then if a consumer were perfectly (subjectively) certain that a brand is totally unacceptable for purchase there would be no uncertainty or perceived risk by definition. However if there is no uncertainty or perceived risk why is the brand totally unacceptable?'

The reason for this disagreement could be that, whereas Cunningham is looking at the perceived risk in the situation of choosing one brand of a product from a number of brands, Peter and Tarpey are looking at the perceived risk of buying one particular brand. It is very risky to have to buy a brand which one is totally certain will be unsatisfactory but on the other hand when one has a number of brands to choose from the perceived risk of the purchase situation is reduced when one is certain that some of the brands should be avoided.

Peter and Tarpey's use of probability brings their risk measure very close to a measure of negative utility.

Peter and Tarpey argue the case for using probability but some other researchers have used probability without discussing why they are deviating from the Harvard research concept. Brown and Gentry (1975) measured probability when they used a question on how likely a brand was to satisfy buying wants. Ring, Schriber and Horton claimed that Bauer had conceptualised the risk component as probability see section 6.10.

In considering the use of uncertainty versus probability it is interesting to note that the Ring, Schriber and Horton study using probability came up with similar results to studies that had used uncertainty. This might suggest that the components can be used interchangeably. On the other hand the study may have been published because its results were acceptable (i.e. if only those studies are published whose results seem acceptable they will all tend to agree with each other).

A strong argument for the use of uncertainty is that it can be more directly linked to information. One can envisage measuring the change in uncertainty from one unit of information.

Bettman's method of approaching the components of perceived risk differs considerably from other sources. Whereas other sources breakdown perceived risk into its components initially, never actually measuring overall perceived risk, Bettman attempts to measure overall perceived risk and then to split it into its components.

Bettman found that importance was the dominant variable. He concluded that uncertainty may be fairly low for the grocery products he studied. It is arguable whether Bettman measured uncertainty or probability, he set out to measure goodness of decision rule and used variation in perceived product quality, the size of the acceptable set of brands in terms of quality and the mean level of quality for the product class.

6.11.4 Combination of the Components

It has usually been assumed that the components of perceived risk are multiplied to arrive at an overall rating of risk. Although appealing theoretical arguments can be made for a multiplicative relationship (namely that the absence of either importance or uncertainty would eliminate risk) there has been little empirical testing of the assumed relation. Cunningham and Deering and Jacoby simply assumed multiplication.

Bettman's research on the combination of components produced ambivalent results. If the formulation was multiplicative it would be expected that uncertainty would have a greater effect at the higher levels of danger. However in the Cunningham case the danger scale seemed to dominate which would suggest a model where higher levels of danger receive greater weight. However, it will be suggested in 6.11.5 that likelihood of occurrence is implicit in the Cunningham danger question and if this is true the danger profile incorporated the chance profile and thus dominated the chance measure.

Bettman's scenario was so hypothetical it is difficult to generalise from his results to real life buying situations.

Research in risk taking in psychology has been equivocal with support for both linear (Lanzetta and Driscoll 1968) and multiplying (Anderson

and Shanteau 1970) relationships.

The Peter and Ryan segmented model for high importance was correlated more highly with brand preference than was the multiplicative form. The low loss comparisons were equivocal. It should be pointed out that previous theory holds that perceived risk is only one predictor of brand preference so prediction of brand preference is a questionable test of validity.

The fact that the segmented model correlated more highly with brand preference in its high importance section than did the Cunningham multiplicative model does not prove that the segmented model is a better predictor. According to this reviews' reading of the Peter and Ryan paper it appears that they compared the correlation of the high risk segmented model with the correlation of the multiplicative model for the sample. Regardless of whether the segmented model is better, one would expect the high risk segment to have a higher correlation of probability with brand preference than the entire sample would have. To carry out a valid test of their model Peter and Ryan should have compared the high risk segmented model with the multiplicative model for high risk perceivers only and the low risk segmented model with the multiplicative model for low risk perceivers only.

Despite the criticisms, there are still some advantages in using importance as a segmentation variable. Tests of internal consistency in the same study showed that importance of loss did not vary over brand which justifies holding importance of loss constant while measuring probability of loss for different brands. Peter and Ryan also hold importance of loss constant while measuring over risk types. This seems intuitively wrong, one would expect individuals weighting of financial consequences, psychosocial consequences etc. to vary considerably. The loss of the variation in the data is inevitable if a segmented model is to be used unless a segmented model was created for each type of perceived risk. The convenience of use of a segmented model is appealing. Also, as researchers have failed to find a satisfactory method of weighting uncertainty and consequences it may be advisable to control the consequences component.

6.11.5 Operationalisation

Jacoby criticises the 'slavish reliance on verbal reports'. This is a failing of most of the perceived risk research, (Cunningham, Cox, Deering and Jacoby, Peter and Tarpey, Bettman). Using such reports assumes that respondents can remember accurately, that they are not influenced by the questions and that they interpret the questions in the same way as the researcher. Measuring information seeking and purchase intention by respondents reports is also very prone to error. In particular one fears that perceived risk may not be recognised by the consumer until it is suggested to them by the researcher. We do not know whether phrases such as 'risk of convenience loss' (Peter and Ryan) or riskiness (Bettman) mean the same to the respondent as to the researcher, and the researchers do not report depth interviews to check that the questions are understood. There should be more depth-interviews before questions are devised, for instance Peter and Ryan did not report any prior analysis to identify what risk was perceived in the purchase of cars. Use of only one question to measure each component may result in a biased measure (Cunningham). The scales used to measure the components may influence the results for instance Cunningham uses an ordinal scale in which the phrases 'very certain' and 'usually certain' are not even comparable. Bettman and Deering and Jacoby use Cunninghams measure with an improved scale.

The wording of the questions may influence results. Cunningham uses the word danger in his measure and this word seems too strong for a measure of negative consequences. The phrases 'a great deal of danger' etc. intuitively appear to include a chance aspect and the Peter and Ryan operationalisation of consequences 'If this loss happened to me it would be:- important - unimportant' seems a better measure of degree of negative consequences.

Another problem of measuring perceived risk is that it may not be understood by respondents. Often questions on perceived risk have required a great deal of time application and undertaking on the part of respondents. Bettman's measure for example is very complicated and hypothetical, it is no wonder that he had to survey student's wives, for his one to two hour questionnaire would have been useless in the usual market-research situation. Although Cunningham's large sample of housewives is laudable one wonders whether Cunningham's questions

were understood in a telephone interview, though his results suggested that the perceived risk expressed did vary over products. Although there may be some need for complicated measures of perceived risk while the theory is still being developed, it will be necessary to devise operational measures that can be used in market-research at some point.

As most measures rely on verbal reports the studies that included some experimental measurement are especially valuable. It seems justified for Sheth and Venkatesan to control the uncertainty of the experimental situation rather than measure perceived uncertainty as this avoids verbal reports. Sheth's study still relied on verbal reports of information use and deliberation however. The study of Ring, Schriber and Horton is the most experimental, by controlling both consequences and probability and observing information use and deliberation it did not use verbal reports at all. If some of the good points of the two above studies were combined a very valuable method could be devised.

Jacoby calls for dynamic research methods to measure dynamic situations, this is what the study of Sheth and Venkatesan did and is one reason why the study is so important. Perceived risk and information seeking seems particularly suited to a dynamic approach - for instance, in the launch of a new product marketers' would wish to know how these two variables change over time.

Deering and Jacoby use ten questions to measure uncertainty and consequences. Advantages of their measure is that it is written in everyday language and that as there are ten questions it is less important if one question is misunderstood. However they can be criticised for the arbitrary manner in which they combine responses to produce a final measure, and the fact that some responses receive more weighting than others. This is especially worrying as Stem, Lamb, and MacLachan (1977) claim in their review that this is the most advanced measure of perceived risk.

6.11.6 Validity

As there are so many interpretations of perceived risk and measurement techniques tests of validity and reliability are desperately needed so that the good measures can be identified and so that the perceived risk research can find some direction - as Jacoby states. However there have been very few tests of validity or reliability in perceived risk research.

A variable should have construct validity i.e. there must be an explicit conceptual statement of the phenomena and the variable must be related to this. Most studies reviewed do have construct validity, they either follow the theory by Bauer and the Harvard researchers (Sheth & Venkatesan, Deering & Jacoby) or they argue from the existing theory why they wish to change or adapt the theory (Bettman), Peter & Tarpey set out why they wished to differ from existing theory clearly in most respects but it has been argued that they did not stress sufficiently the implications of adapting the theory from product to brand level. However Ring, Schriber & Horton and Brown & Gentry's studies did not state that they were differing from the work of the Harvard researchers which they quoted.

None of the studies quoted have cross validity i.e. they did not test results on a separate independent sample from the same population at the same time. However there has been a cross validation by Jacoby, Szybillo and Kaplan (1974) which tested findings after two years. They had found in Jacoby & Kaplan (1972) that overall perceived risk can be identified using measures of the five types of consequence, performance, financial, psychological, social and physical and that performance consequences were the most important determinant, using the same method they repeated the same results.

Convergent validity, that different measures of the same concept should yield the same results, has been tested by Bettman. He compared his inherent risk measure with Cunninghams danger measure and found correlations of 0.26 to 0.57 which he claimed gave some support to the validity of his measure.

There has been only one measure of test-retest reliability. This is where a test is repeated after a short interval to see if the same results are obtained. Given the problems of measurement mentioned in 6.11.5 such as memory and interpretation of questions, test-retest reliability

would have given more confidence in the operational measures used. The application of test-retest reliability was carried out in Bettman (1975) where he repeated tests immediately.

6.11.7 Generalisability

To what extent can we generalise from the results of the studies reviewed? Almost all the studies have stated that they were exploratory and have warned against generalisation. It is a great failure of consumer research that so few exploratory studies have been followed up.

As the studies were exploratory they tended to use a small, non-random sample of respondents and almost all the respondents were students. Exceptions are Cunningham (1967) - 1,200 housewives, Mencil & Kantz (1955) - doctors, and Arndt (1967). Fortunately for our study these studies were all in the information handling area.

Another problem was that all the studies were carried out in the USA. Can we apply results in the USA to the UK? Hoover, Green & Saegot (1978) carried out a cross-national study of perceived risk, comparing the USA with Mexico. They used Cunninghams perceived risk measure and examined the relationship of the measure to brand loyalty. They found that there were differences between the Mexican and USA samples in the extent to which consumers perceive risk and the manner in which perceived risk is related to brand loyalty.

Can we generalise across products? This seems justified as perceived risk has been identified in decisions involving many different products including low price, non-durable items.

Can we generalise from one measure to another? Can we expect that results using one measure should be repeated using another? This seems doubtful as only one study of convergent validity has been found.

6.12 CONCLUSIONS

6.12.1 Summary

- a. Perceived risk research has many of the failings of consumer behaviour research criticised by Jacoby.
- b. There are many different conceptualisations of perceived risk in particular differences in use of uncertainty and probability components and lack of clarity over decision stage covered.
- c. There are many measures of perceived risk.
- d. No measure of perceived risk has been satisfactorily validated.
- e. Most tests of perceived risk have been carried out on students, these have a limited generalisability. A reason for this is that measures of perceived risk have been difficult to understand and are unsuitable for market research interviews.
- f. Research has not been systematic and has not taken advantage of the structure laid down by the Harvard researchers.
- g. Some of the most basic hypotheses of perceived risk theory have not been adequately proven. Hypotheses which have face validity have been stated so often they have become part of a 'consumer behaviour folk-lore' which everyone believes has been proved.
(See section on perceived risk and information need)
- h. The concepts of inherent risk and handled risk have been considered. Whereas the inherent risk situation may be useful in establishing theory, studies using handled risk are important because they are closer to the real life situation. It is necessary to confront the problems of many variables and changes over time which handled risk involves.
- i. It has been shown that some researchers have studied the decision to purchase one brand from a number of brands and others have studied the decision to purchase one brand in isolation. This affects the conceptualisation of perceived risk and a distinction should be made between the two.
- j. With regard to the uncertainty or probability component of perceived risk it has been argued that:-

- . Uncertainty and probability are different concepts.
 - . Some researchers have misinterpreted the Harvard researchers' original concept as probability rather than uncertainty.
 - . Where researchers have argued for the use of probability rather than uncertainty they have based their arguments on the single brand purchase situation.
 - . Uncertainty and not probability should be used in studies of information handling because uncertainty is a function of lack of information whereas probability implies the best possible knowledge of the likelihood of an outcome.
- k. The combination of the components of perceived risk has been considered. No conclusion has been reached as to whether the relationship between components is multiplicative or linear. Arguments for and against the segmented model have been given and suggestions for an improved test to compare the segmented and multiplicative model have been given.

6.12.2 Suggestions for Future Research

'Future consumer research using risk seems fruitless unless some of the major conceptual problems are dealt with' Bettman (1978).

- a. Differences in the conceptualisation of perceived risk should be identified and justified.
- b. Researchers eagerness to develop new measures has diverted resources from the validation of existing measures. Before more perceived risk measures and conceptualisations are developed the measures already developed should be tested and validated. These tests should be on representative samples of the population. Only when several validated measures of perceived risk are available should attempts be made to improve the existing measures.
- c. The basic hypotheses of perceived risk theory should be tested using the validated measures.
- d. Perceived risk should be put back into its information processing context and the interaction of information search, deliberation and repeat purchasing should be considered.
- e. Dynamic models and measures of perceived risk should be developed .

- f. There should be more measures of what people do rather than what they say they do.
- g. Perceived risk is a difficult concept to measure. Depth interviews or group discussions should be carried out before measures are devised to ensure that measures are relevant and phrased clearly. Follow-up interviews should be carried out to ensure that questions have been correctly interpreted.
- h. In the long term easy to understand measures of perceived risk are needed for use in market research surveys.

SECTION TWO - THE RESEARCH INVESTIGATION

CHAPTER SEVEN

CONCEPTUALISATION OF THE PRISM MODEL

CONCEPTUALISATION OF THE PRISM MODEL

7.1 THE MACROSTRUCTURE OF THE MODEL

The end aim of the PRISM research is to produce a model which can predict the effect that an item of information will have on buying behaviour. The components of the PRISM model have been included either because theory suggests that these are involved in the process of information effect on purchase behaviour or because PRISM research has suggested that these are involved in the process. The various components will be described in sections 7.2 to 7.12.

The PRISM model has been formulated as a flow chart, see figure 7.1. There were difficulties in arriving at an acceptable formulation and this chart should be taken as a rough guide of how the components may relate to each other.

To briefly summarise the model, starting at the Information Environment. The reaction of a subject to public relations information in the Information Environment will depend on the subject's Information Need i.e. the type of information required and her Openness to Information i.e. her degree of openness to information from active rejection to active information search. This is because it is thought that subjects are more likely to perceive and be influenced by information that is 'needed'. It is hypothesised that the Need for Information and the Openness to Information will depend upon the amount of Risk that the subjects perceive - Risk includes Usage Risk and Buying Risk (N.B. The chart omits link between Buying Risk and Openness to information)

An investigation of the relationship between the Risk components and the Information components of the model has formed a major part of the current research investigation and the expected relationship is discussed in section 7.10.

The actual way in which the Information Environment is used will depend upon the subjects' Information Processing rules. This section of the model has not yet been developed. The theory of information processing is summarised in Chapter Five.

The section on Usage Strategy is a distinctive element of this model. Usage Strategy involves decisions on product use. Usage Strategy and Usage Beliefs are interrelated each plays a part in determining the other.

Work on usage strategy and usage beliefs has been another major part of the current research investigation. The relationships between Usage Strategy and Usage Beliefs are explained in section 7.3.

Usage Risk i.e. the amount of risk perceived in the usage strategy depends partly on the subject's Usage Beliefs. Usage Risk is the link between the Usage Strategy section of the model and the information section.

Usage Strategy will determine the Product Set considered and once product set is determined the brands of products considered i.e. Brand Set will depend upon the subjects Buying Strategy and Buying Beliefs. A certain amount of Buying Risk will be perceived in the brand decision. The Intention to Buy is based upon the Brand Set and, subject to situational factors on eventual decision to Buy/Not Buy will result.

The PRISM model should be relevant to any situation where several products are used for a particular task (e.g. cleaning household surfaces). The PRISM model not only considers the background of all products used but also focuses on one product 'the subject product' which in the present study is cream cleanser in one case and fabric conditioner in the other. Some questions the model addresses are:- Given the background of product use what are the risks involved in using the subject product and what information is required about the subject product?

7.2 USAGE STRATEGY

'The concept of usage strategy is based on the idea that consumers are tackling standard common problems and that they adopt a particular solution from the options as they see them. An example from the Flora study where decisions involved margarines and butters was the decision to use butter on bread and vegetables, while margarines were used for other cooking purposes, except for special dishes and for certain guests - so that usage strategy was made up of a matrix of people, uses and the alternatives between butter, ordinary margarine and polyunsaturated. These strategies, or sets of decisions form patterns and people could be grouped according to the way they set about certain tasks. Usage strategy is therefore a behavioural measure of the implicit decision rules being used by people in order to solve routine problems'.

A. Hogg (1980)

It seems useful to break down the statement into several definitions and hypotheses.

Definitions

1. A product usage situation is a situation in which at least one product is used to satisfy an end goal. Examples of usage situations include 'servicing the car', 'cleaning the house' and 'feeding the family and guests'.

Although the usage situation may be made up of a number of tasks, the tasks will be perceived as related to the end goal and grouped in the user's mind. The products used may be defined in relation to the particular usage situation e.g. 'cleaning products'.

2. A product usage situation can be broken down into a number of usage tasks. A usage task is perceived by the individual as a single operation e.g. 'servicing the car' may include the usage tasks 'cleaning the spark plugs', 'checking the tyre treads', 'changing the oil', etc.
3. In a particular product usage situation usage strategies can be identified. These usage strategies are made up from a matrix of alternatives which may include products, product forms, people, usage tasks and other variables which can be defined for each usage situation.
4. A product form is a sub-division of product class e.g. if product class is cigarettes a product form is filter tip, if product class is fat spreads a product form is polyunsaturated margarine.

As an example - in the cream cleanser survey the product usage situation identified was 'Cleaning household surfaces'. The product and task components are listed below. Question five of the cream cleanser questionnaire, see Appendix 3, is a matrix to measure regular and occasional use of products in each task situation and these data were to be used to identify usage strategies. The desk research for this survey suggested various usage strategies which might be identified in the household cleaning situation, for example, 'Use a scouring powder for traditional services such as ceramics and use cream cleanser for modern surfaces such as stainless steel'.

COMPONENTS OF USAGE STRATEGY - CREAM CLEANSER

TASK COMPONENTS

Cleaning kitchen sink	Cleaning other kitchen surfaces
" handwash basins	(e.g. fridge)
" baths	" wall tiles
" cooker top	" floors
" pots and pans	" paintwork
" worktops	" draining boards

PRODUCT COMPONENTS

Cream cleanser	Cleen-o-pine cream cleanser
Scouring powder	Bleach
Washing up liquid	Scouring pads
General household cleansers	Floor cleaner
(liquid)	Washing powders
Soap soda	Polishes
Disinfectants	

In the PRISM research on butters and margarines a usage strategy identified was, 'Serve butter to children and guests, serve polyunsaturated margarine to husband'.

7.3 USAGE BELIEFS

PRISM researchers have found three types of usage belief which are relevant to the decision situation.

The first type of usage belief is; 'the consumer's own perception of the task in question and the results they expect to achieve' (A. Hogg 1980). This is simplified to the term 'usage goals' in the rest of the text. These 'usage goals' are seen as ways towards achieving the 'end goal' which defines the usage situation and vary from individual to individual depending on how she perceives the end goal. For example in the cream cleanser survey the end goal defined was 'Cleaning household surfaces' and some usage goals identified that might be perceived as achieving this were, 'Getting rid of stains or grease', 'Getting rid of germs', and 'Using the one cleaner for as many jobs as possible'.

The second type of usage belief is 'the information and beliefs they have about the capabilities of different products to solve the task in hand' (ibid). The subject has a certain perception of the task in hand expressed in his 'usage goals' and he also has a certain perception of the capabilities of products to fulfil those goals. For example beliefs about cream cleansers to be measured include 'Cream cleansers do not scratch surfaces' and 'cream cleansers leave a pleasant smell'.

The third type of usage belief is the problems expressed with achieving the end goal. For example in the product usage situation 'Doing the washing' examples of problem are 'Fabric getting twisted and matted' and 'Not being sure all the powder is rinsed out'. It was not known how problems expressed would relate to other aspects of usage strategy. Problems expressed should indicate how successful an individual's usage strategy is, as a problem indicates some failing in the usage strategy and should indicate the confidence which the individual has in her usage strategy. The problems expressed are the link between usage strategy and usage risk in the model as they measure the degree of confidence which the individual has in his product usage strategy, see section 7.11.3.

One possibility is that problems expressed can be related to usage goals. If a consumer attempts to combine products in a usage strategy in order to satisfy usage goals, it may not be possible to fulfill all goals with the usage strategy, e.g. the consumer may not be able to satisfy the

goal of 'Achieving best taste' through using butter and the goal of 'Reducing health risk' through using margarine or he may not be able to satisfy the goal of 'Using few products to save money' and that of 'Using the best product for the job'. If it is not possible to satisfy a particular goal with her usage strategy the subject may express problems.

We can now add the following hypotheses to those in section 7.2:-

1. A usage strategy is a pattern of combining the matrix variables in order to best satisfy the user's usage goals. Usage strategies are associated with particular usage goals.
2. The pattern of the usage strategy will not only depend on the subject's usage goals but also on the subject's beliefs about the capabilities of the product to fulfil the goals.
3. Problems experienced will be linked in some way with usage strategy and usage goals. The way these are linked will be identified. It is possible that a usage strategy may involve a trade off of usage goals and that problems may reflect goals that the strategy fails to satisfy.

7.4 PRODUCT SET

'This is a measure derived from the usage strategy and is defined as the set of products viewed by the purchaser to be reasonable alternatives for a particular task. This is the set which he uses and from which he will make his buying decision' A. Hogg (1980)

Product set was measured from the questions on Usage Strategy mentioned in subsection 7.2. Product set equals all those products mentioned by the respondent in her usage matrix.

7.5 BUYING STRATEGY AND BUYING BELIEFS

'Usefully regarded again as a set of decision rules the buying strategy will specify what, when and how the housewife buys. If her product set includes scouring powders and pastes, and she also believes that all brands are the same, she will buy brands in these fields in her usage strategy on price with a frequency and weight dependent'.

Kingston - Thames 1978

Some work was done to develop buying strategy in the present phase of the research, this concentrated on purchase patterns of the main product in the survey. The questions are questions 1, 11, 12, 13 and 16 of the cream cleanser questionnaire and questions 1, 10, 11, 12 and 17 of the fabric conditioner questionnaire.

7.6 INFORMATION ENVIRONMENT

'When the model is fully working the information available to consumers will need to be measured. This would involve analysis of advertisements and media schedules, press cuttings and other media abstracts. Data will also be needed on the media usage patterns of the target market, which can be collected either in the context of the research for a particular communication plan or use can be made of data from other sources. In the context of measuring the impact of a communication plan it would also be necessary to measure the extent to which respondents are aware of the information being transmitted and of their understanding of the principal message. The beliefs about information environment measure, already mentioned, is made up of three dimensions - firstly satisfaction with the amount of information, secondly satisfaction with the quality of the information, and thirdly attitudes towards different sources of information. The measure is specific to the problem and the information available on that problem/issue, so that it provides an analysis of the gaps, of the misunderstandings, and most importantly of the reaction which could be expected to new information from a particular source in terms of the halo effect derived from the information environment'. A. Hogg (1980)

The beliefs about the information environment measure is question 3 in both questionnaires.

7.7 INFORMATION PROCESSING

This section of the model has not yet been developed. See Chapter five for a discussion of information processing.

7.8 OPENNESS TO INFORMATION

This is a measure of how receptive consumers are to further information

on the subject product ranging from active rejection to active information search. It was first used in the Flora survey, however, the active information search end of the scale was not found appropriate to attitudes to information on cream cleanser and fabric conditioner; so a measure of that end of the scale was omitted. The question in the cream cleanser survey was worded:-

Q.17. Could you tell me which of these statements best describes the way you feel about getting information on cream cleansers?

- | | |
|------------------------------------------------------|---|
| I am not interested at all in any information | 1 |
| I am not really interested in any information but if | |
| I came across it I would look at it | 2 |
| I would quite like information on cream cleansers | 3 |

Respondents who answered that they were not interested in any information were not asked questions on information need.

7.9 NEED FOR INFORMATION

This is the type of information that consumers need, for instance information on price, effectiveness and, in the Flora survey case, health risks. The information needed has to be measured by the information that consumers say they need which may or may not be a good approximation of actual needs. Questions on information need are Q.18 to Q. 21 in the cream cleanser questionnaire and questions 19 to 23 in the fabric conditioner questionnaire. The first question allows the respondent to answer freely:-

18. What sort of things would you like to know about cream cleansers and similar products? (PROBE)

The following questions are more structured, for example;

19. Is there anything you would like to know about the types of dirt/surfaces cream cleansers are best for?

Yes

No

If yes: What is it exactly you would like to know? (PROBE)

7.10 THE RELATIONSHIP BETWEEN THE RISK COMPONENTS OF THE MODEL AND THE INFORMATION COMPONENTS.

The relationship between perceived risk and information handling forms an important and essential part of perceived risk theory and previous work in this area is described in the literature review in section 5.10.

The PRISM researchers in seeking an explanation for consumers' reaction to public relations information, turned to the Harvard research on consumer perceived risk which offers a possible explanation of information handling. The Harvard researchers started with the premise stated by Cox (1976b);

'The amount and nature of perceived risk will define consumer information needs, and consumers will seek out sources, types and amounts of information that seem most likely to satisfy their particular information needs'....and;

'If we know something about the nature and amount of risk perceived by the consumer; it will help us understand and predict how and why she acquires, transmits and processes information while solving problems associated with consumer decision making'.

This premise was taken up by the PRISM researchers and, together with supporting results from their own research, this found the basis of their belief that public relations communications would be more successful if they provided information that was needed, that need being influenced by the risk perceived in the relevant situation.

'The central hypothesis of the model is that the information the purchaser will use to come to a decision will relate directly to his needs in terms of reducing the perceived uncertainty of the decision'.

A. Hogg (1980)

The PRISM researchers set out to identify areas of perceived risk in the product areas that they were interested in and the measures of perceived risk described in the following section were developed from depth interviews in the Flora study. The PRISM researchers' philosophy was to describe what they found rather than to impose theory from outside, also the researchers applied perceived risk to their concept of usage strategy, so the measures of perceived risk which evolved differ considerably from

other measures of perceived risk.

The end aim of identifying these measures of perceived risk was to predict openness to information and information need and the hypotheses put forward by the PRISM researchers to be tested in the present research were:-

1. Openness to information will increase with the level of risk perceived.
2. Information need i.e. the type of information required will depend upon the nature of the risk perceived.

Although the components of perceived risk were identified the best way of combining these components to predict openness to information had not been established and one aim of the present research was to identify the best way of combining these components.

It seems that the best way of assessing the PRISM concepts of perceived risk is to consider their effectiveness in predicting the information components. The research cannot indicate whether the measures are effective measures of perceived risk as described in existing theory. The literature review in Chapter Five showed that there are considerable anomalies in the conceptualisation of perceived risk and no agreement as to how it should be defined so it is difficult to compare the PRISM measures with existing measures. It also showed that the relationship between perceived risk and openness to information has not been proved to any great extent, in fact any supporting evidence only relates to word of mouth communications. Thus if PRISM 'perceived risk' measures were shown to be effective predictors of openness to information we would not be able to claim predictive validity for our measures.

The safest statement concerning our measures is to say that the PRISM perceived risk measures were initially developed from the concept of perceived risk, they were found effective in predicting the openness to information in the Flora study and that their effectiveness in predicting openness to information will be tested in the current research project.

In addition to the PRISM measures of perceived risk described in the following section, two other measures of perceived risk are included. These were developed using the information available in the questionnaire to produce measures as similar as possible to the perceived risk

measures used in previous research into perceived risk. The intention was to test out previous theory about the relation between perceived risk and openness to information, though these measures were not expected to be as effective as measures specifically designed for the purpose.

7.11 RISK

7.11.1 Introduction

Conceptualisations of perceived risk from other sources are covered in the literature review. In the literature perceived risk has been described as the risk involved in buying a brand from a number of brands of a product, or in some cases in buying one brand with no alternatives available. Bettman has distinguished between two different situations, one where no brand names are available - 'inherent risk' and one where the decision takes place in the consumer's usual environment with brand names known which is called 'handled risk'.

Perceived risk has usually been conceptualised as having two components. The first, the chance component, measures either how uncertain the subject is about the result or how probable he thinks a negative result will be. Bettman has used other components of perceived risk which could indirectly measure uncertainty (perceived difference between brands, familiarity with brands, amount of information available and confidence in information). The second component of perceived risk measures the perceived consequences of a purchase decision either in terms of severity of the negative consequences of a failure or importance of achieving a successful result.

The PRISM risk measures, particularly 'Usage Risk' differ considerably from these conceptualisations. PRISM was a conscious attempt to build up a model from observed facts rather than impose a theory and fit the facts into it. The advantage of PRISM is that 'risk' areas in the product fields were identified from depth interviews whereas in much risk research the researcher has hypothesised what risk areas will exist without doing exploratory research, the disadvantage is that the PRISM risk concept is not equivalent to other risk concepts.

There are two risk concepts in the PRISM model:- Buying Risk and Usage Risk.

7.11.2 Buying Risk

This is the amount of risk perceived in choosing a brand of a product from a number of brands in the usual buying situation, that is the handled risk situation. This measure is only appropriate to users of the subject product - 'the subject product' refers to the product which was the subject of the study i.e. cream cleanser or fabric conditioner.

PRISM researchers suggested that Buying Risk should have the following components: perceived difference between alternative brands, the value of perceived differences in influencing brand choice, and satisfaction or dissatisfaction with usual brand. That is the subject would feel more uncertain about the possible negative consequences of her brand decision if there is difference perceived between the brands, if those differences would influence her brand choice and also if she is dissatisfied with her usual brand(s) the latter means that she would not have a brand which she could purchase with confidence.

The perceived difference component is supported by work by Bettman (1973). According to Bettman the greater the perceived difference between brands the greater the inherent risk and the greater the inherent risk the greater the handled risk.

Question 9a (cream cleanser) and question 8a (fabric conditioner) were designed to measure perceived difference between brands and question 9b and question 8b to measure the value of perceived differences in influencing brand choice. Question 10 (cream cleanser) and question 9 (fabric conditioner) were designed to measure satisfaction/dissatisfaction with usual brand(s).

7.11.3 Usage Risk

Usage risk can be considered as a measure of the confidence which the user has in her present usage strategy. This concept is based on the idea that there are areas of uncertainty in a person's mind about the way he or she is tackling a problem, or about what would happen if an alternative solution were tried.

This risk concept differs from all other concepts of risk in that it measures the subjects state of mind after the purchase decision has been made and not before. Here the uncertainty in the subject's mind is

whether she could have made a better choice. If she feels that she could have made a better choice she should be more open to information which may help her make a better choice in the future. It may help understanding of this concept (which is still being developed) to think of it as 'negative outcomes of current behaviour'. Indeed the concept of usage risk was compared to the measure of 'disliked attributes' used by Jacoby (1979) which he found most useful in predicting information search (A. Hogg, 1980 p. 14).

The situation in which usage risk occurs is that of using a product as part of an overall usage strategy in which several products are involved. This differs from other measures where the risk of buying a particular brand or an unknown brand is considered. The implications are that the strategy of combining products may reduce risk e.g. when polyunsaturated margarines are served to the husband and butter to guests or any strategy where one product is used to compensate for the perceived failings of another.

Usage Risk is described in the PRISM literature in the following way:-
'Uncertainty about the consequences of current usage behaviour is measured through the identification of dissatisfaction with current results, compared with a person's priority objectives (as already measured under usage beliefs) and the extent of problems/difficulties being experienced with their attainment. In effect we are measuring the important, negative outcomes of current behaviour, as we have found by experience that this is the most valid guide to the extent of confidence which people feel about a particular product's performance, social acceptability etc., depending on the dimensions of the choice situation....We also measure the risk reduction strategies in terms of the factors which strongly reinforce current behaviour. These are not simple to define as it is not just satisfaction with outcomes/results but also a combination of the beliefs about their own ability to judge a good result, and/or trust in well known brands/products, or their beliefs about the alternatives available to them'. A. Hogg (1980)

In investigating the measurement of usage risk this study was to look at the contribution of various components to an overall measure of usage risk.

There is no direct measure of uncertainty used in this study. A measure

of uncertainty was used in the Flora study but results showed that this was not understood by respondents and it was not included in the present questionnaire.

Experience had shown that a good indicator of confidence in current usage strategy was the degree of problems being experienced in achieving the usage goal compared to a person's priority objectives. Examples of problems experienced in the usage situation 'Cleaning household surfaces' include 'Taking the shine off surfaces' and 'Finding cleaners that are strong enough'. The problems were measured in question 7 (cream cleansers) and question 6 (fabric conditioners). It was expected that the problems experienced would influence behaviour more if the goals to which the problem pertains are important. To facilitate analysis goals directly equivalent to problems were measured, for example, the goals relating to the two problems mentioned above; 'Not taking the shine off surfaces' and 'Finding cleaners that are strong enough'. These goals were measured in question 6 of the cream cleanser questionnaire and question 5 of the fabric conditioner questionnaire.

The problems experienced measured the usage risk perceived in the usage strategy as a whole in which the 'subject product' might or might not play a part. To produce a more specific measure of risk in using the subject product, a component measuring beliefs about the subject product was tested, see Question 24 cream cleanser and question 26 fabric conditioners. Also a question measuring satisfaction with usual brand of subject product was used - see question 10 cream cleansers and question 9 fabric conditioners. This latter measure was only appropriate to users of the subject product.

Another component of usage risk to be tested was that of 'risk reduction beliefs' these beliefs are ways in which people tell themselves that their usage strategy is a satisfactory solution to the problems faced in achieving a usage goal. In the Flora study a risk reduction belief found was that 'moderate use of butter would do no harm'. Some risk reduction beliefs tested in the cream cleanser study were 'Cream cleansers are too expensive to use on every cleaning job' and 'I hesitate to use cream cleansers on more things because they are not always suitable for the job' see question 14 cream cleansers. Risk reduction beliefs were thought to be particularly important in relation to public

relations effects as these beliefs might prevent the subject from changing his usage strategy. As these beliefs may reduce the perceived risk in a situation this may in turn reduce the information requirement. The effect of these beliefs on information requirements was to be investigated.

Other ways of reducing perceived risk include brand loyalty and using well known brands and these behaviours were also measured to see if they had an effect on the amount of risk perceived.

It was not known how risk reduction beliefs, brand loyalty etc., act to reduce perceived risk or whether they act in different ways so it was necessary to consider each item's effect separately.

Another risk factor which was found to influence non-user's openness to information about the subject product was the uncertainty which non-users feel about the subject products, termed 'Non users risk'. That is; the reasons why they do not use the subject product.

An effective measure of the uncertainty which non users feel about the subject product was found to be a person's evaluation of the factors which are likely or unlikely to persuade them to modify their behaviour and use the subject product. This measure was found to be useful in predicting information requirements in the Flora study and also had a correlation of 0.4 with buying intentions in the study on a new drink, (Kingston 1978).

Non users risk was measured in the present study using question 14 (cream cleansers) and question 16 (fabric conditioners). Reference to these statements shows that some of the statements are of the type, 'I would change my habits if I though the product would do the job without problems', implying little faith in the product. Other statements are of the type 'I would change my habits if I had a particular job for which the product was suited' implying that the reason the product is not used is because it is seen as inappropriate to the tasks in hand.

The hypothesised components of usage risk described above are listed in the summary. The effect of these components on openness to information will be tested.

The development of perceived risk is a dynamic situation which was

measured at one point of time. It is important to realise that as a consumer will act to reduce perceived risk as it arises by risk reduction beliefs, information seeking and other strategies the risk may no longer be perceived at the point in time that the researcher takes measurements.

7.11.4 Two Alternative Measures of Perceived Risk

The following measures of perceived risk are not part of the PRISM model. They were constructed from the questionnaires because they came nearer to existing conceptualisations of perceived risk and it was interesting to see whether these would be effective in predicting information requirements.

Both measures incorporate a chance of loss component and an importance of loss component as in most perceived risk formulations. The measures differ. One includes the Peter and Tarpey type of chance component which is expectancy of loss (see section 6.8). This will be called 'Risk Y'. The second measure includes the Cunningham et al. uncertainty concept (see section 6.5). This will be called 'Risk X'. Both measures are based on the question on Usage Beliefs (question 24 cream cleanser, question 26 fabric conditioner). In this question various statements are rated:-

Definitely True, Probably True, Probably Untrue,
Definitely Untrue.

According to the expectancy of loss conceptualisation, the more probable a negative result is thought to be the higher the risk so that the highest risk level will be the responses 'Definitely True' to a negative statement or 'Definitely Untrue' to a positive statement. The second highest risk level will be 'Probably True' to a negative and 'Probably Untrue' to a positive.

According to the Cunningham uncertainty conceptualisation the more uncertain the result the higher the risk, therefore 'Probably True' and 'Probably Untrue' should be rated for high risk.

The importance of loss component was harder to measure using the questionnaire. There is no direct measure of the importance of each objective listed in question 24. However it was decided to use the

measure of importance of objectives in question 6 (cream cleanser) as this measure did not directly correspond with question 24 (although some of the objectives were the same) it was not possible to weight each objective. However it was assumed that subjects could be considered as varying in the total amount of importance they attached to the cleaning objectives and that importance could be used as a segmentation variable. Peter and Ryan (see section 6.8) used importance perception as a segmentation variable and found this to be satisfactory.

7.11.5 Summary of Risk Measures

The possible components of the risk measures described above are summarised below. The way the components were to be combined was not known and one of the objectives of this project was to identify the way the components were combined.

Buying Risk (Subject product users only)	Perceived difference between alternative brands. The value of perceived differences in influencing brand choice. Satisfaction or dissatisfaction with usual brand.
Usage Risk	Problems with achieving goals. Importance of goals. Satisfaction with usual brand or beliefs about the product. Risk reduction beliefs. Non-users risks i.e. non users evaluation of factors which are likely or unlikely to make them modify their behaviour to the product.
Risk X	Uncertainty of outcome segmented by importance of objectives.
Risk Y	Expectancy of negative outcome segmented by importance of objectives.

7.12 BRAND SET, INTENTION TO BUY AND SITUATIONAL FACTORS

The user's brand set is those brands of the product from which he is prepared to make a choice, see question 11c (cream cleansers) and question 10c (fabric conditioners). Buying intention is the stated intention to buy the brand, see question 13 (cream cleansers) and question 12 (fabric conditioners).

The non users' Buying Intention is a measure of which brand they say they would buy if they decided to buy the product; question 16 (cream cleansers) and question 17 (fabric conditioners).

Situational factors are any variables that may affect purchase decision between intention to buy and actual purchase. These include brands in stock at store, special offers, promotions, etc. These have not been measured and the PRISM model at present attempts to explain buying intention rather than observed purchase behaviour.

CHAPTER EIGHT

THE RESEARCH PROCESS

THE RESEARCH PROCESS

8.1 THE RESEARCH OBJECTIVES - continuing the PRISM project

The purpose of the present project was to analyse the results of two questionnaires based around cream cleanser and fabric conditioner use. The analysis of the questionnaires would complete a PRISM project begun in 1978.

The cream cleanser and fabric conditioner study had been designed to explore the concepts developed in the Flora study in relation to other fast moving non-durable consumer goods (see Chapter Three). The project was planned to test hypotheses developed in the Flora study and to improve the specification of the perceived risk concept developed in the Flora study.

The technique used was to develop questionnaires from depth interviews in order to identify and measure PRISM concepts. The concepts were applied to the situation of cleaning household surfaces (cream cleanser survey) and doing the household washing (fabric conditioner survey). The same concepts were measured in each questionnaire using the same techniques. The cream cleanser questionnaire was to be analysed first and then, in order to test whether these findings were generalisable, an analysis of the fabric conditioner data would show whether these results were repeated.

8.2 FACILITIES AVAILABLE

The results of the two questionnaires carried out on a purposive sample of 50 housewives each were available.

A computer package - the statistical package for Social Sciences (SPSS) was available for the analysis of the data, SPSS provides facilities for data transformation, tabulation and statistical analysis (see bibliography under SPSS). The data from the questionnaires were set up as SPSS files.

There was a problem with the use of SPSS, it does not have facilities for analysing multipunched data i.e. where more than one response can be recorded per question. As can be seen from the questionnaire (Appendix 3) the questions were designed to be multipunched. Many

questions allowed up to twelve responses. This was because market-research firms such as Q.E.D. use computer packages capable of handling multi-punched data. To allow analysis by SPSS the data had to be converted to single punching. This meant that each of the twelve responses to a question became separate questions with a yes/no answer. This meant the number of tables which had to be produced and the number of exercises to be carried out increased twelve fold.

8.3 TECHNIQUES USED

The analysis necessary was chiefly the identification of patterns in the data, testing of relationships between variables and establishing the best way of combining variables to predict the dependant variable. After intial consideration of frequency tables of each variable cross-tabulations between two variables were used to identify relationships between variables. This was because it was thought important to understand the relationships between pairs of variables before considering relationships between more than two variables. 'The analysis of multivariate data can usually start by examining the relationships between pairs of variables' (Ehrenberg 1975 p. 147). Also, because it was thought that, if relationships strong enough to be generalisable existed, they should show up in comparisons of grouped data.

Much of the cross-tabulation analysis of differences between groups was repeated using analysis of variance of group means. This was because it was found easier to take in the information from ANOVA tables than from cross-tabulations (the single punching of questionnaires meant that many tables were produced). Also it was found convenient to use the F-statistic as an indicator of differences between group means. Although the sample was not random so that not much importance could be attached to the significance levels, they were useful indicators of possible differences in a mass of data. Also it had been found that in deciding which differences in cross-tabulations were large enough to be of note, that the decision tended to be prejudiced by the result hoped for. An advantage of the F statistic was that it could be used as a criteria for judging differences. As the ANOVA tests were found more convenient than the cross-tabulations

it is mainly ANOVA test which are reported in the results.

8.4 EXTENT OF THE ANALYSIS

The analysis concentrated on the investigation of the usage strategy and perceived risk sections of the model. Other sections of the model e.g. preferred information source, are only of use if the usage strategy and perceived risk sections of the model can be developed. A brief guide to other questions on the questionnaire which did not feature in the analysis of usage strategy or perceived risk is given in Appendix 4.

The cream cleanser analysis was carried out first. The fabric conditioner analysis was not begun until the cream cleanser analysis had been completed and the results recorded. The results to be tested in the fabric conditioner data were specified and the relevant tests repeated.

The analysis has been reported in Chapters on 'The investigation of usage strategy' - Chapter Nine and 'The investigation of the perceived risk and information components of the model' - Chapter 10. The write up has been ordered according to hypotheses tested, Methods, results and specific conclusions have been reported according to hypothesis.

CHAPTER NINE

THE INVESTIGATION OF USAGE STRATEGY

THE INVESTIGATION OF USAGE STRATEGY

This chapter contains a description of the research investigation of usage strategy from initial hypotheses to specific conclusions. The rationale and background to the concepts and hypotheses included in the investigation are to be found in chapter seven, in particular see section 7.2 and 7.3 where definitions of the terms used in this chapter are given.

The hypotheses that concern usage strategy are as follows:-

9.1 HYPOTHESES

1. In a particular product usage situation usage strategies can be identified. These usage strategies are made up from a matrix of alternatives which may include products, product forms, people, usage tasks and other variables which can be defined for each usage situation.
2. A usage strategy is a pattern of combining the matrix variables in order to best satisfy the user's usage goals. Usage strategies are associated with particular usage goals.
3. The pattern of the usage strategy will not only depend on the subject's usage goals but also on the subject's beliefs about the capabilities of the products to fulfill the goals.
4. Problems experienced will be linked in some way with usage strategy and usage goals. The way these are linked will be identified. It is possible that a usage strategy may involve a trade off of usage goals and that problems may reflect goals that are not satisfied by the strategy.

9.2 HYPOTHESIS I

The product usage situation defined for the cream cleanser survey was that of 'Cleaning household surfaces', for the fabric conditioner survey it was 'Doing the household washing'. The components of the usage matrices of these two situations were identified using information on previous Lever Brothers research and depth interviews.

The usage matrix for 'Cleaning household surfaces' was found to have two dimensions, one being product used the other being surfaces to be cleaned.

The set of products considered by the housewives in this situation included:-

Product Components

Cream cleanser	Cleen-o-pine cream cleanser
Scouring powder	Bleach
Washing up liquid	Floor cleaner
General household cleaners (liquid)	Washing powders
Soap soda	Polishes
Disinfectants	

The set of cleaning tasks considered by the housewife included:-

Task Components (surfaces to be cleaned)

Cleaning kitchen sink	Cleaning other kitchen surfaces
" hand wash basins	e.g. fridge
" baths	" wall tiles
" cooker top	" floors
" pots and pans	" paintwork
" worktops	" draining boards

These components are measured in question 4 of the cream cleanser survey. See Appendix 3. It will be noted that respondents were also asked to record whether use was regular and occasional.

The usage matrix for 'Doing the household washing' was found to have three dimensions, the items to be washed, the washing or drying method and the wash product used. The set of items to be washed included:-

Items to be Washed

Woollens	Manmade/nylon shirts & blouses
Towelling	Cotton sheets
Underwear	Other cottons
New or special clothes	Nappies
Manmade/nylon sheets	Baby clothes

The set of washing and drying methods included:-

Washing or Drying Method

Handwash	Tumble dry
Machine wash	Indoor dry
	Outdoor dry

The set of products used is complicated by the fact that the behaviour of users and non users of fabric conditioner was considered separately. The product set for fabric conditioner users only included the options 'Does not use fabric conditioner', 'Use fabric conditioner occasionally' and 'Use fabric conditioner regularly'. The product set for non users of fabric conditioner included 'Normal washing powder', Biological washing powder', and 'Special products'.

Usage strategy in fabric conditioner survey is measured by question 14 for users and question 15 for non users. See Appendix 3.

The information available on possible usage strategies from Lever Brothers records was qualitative not quantitative. There was some information available on how consumers perceived the suitability of various products to cleaning tasks a summary of this is shown in table 9.1.

Evidence suggested that scouring powders were used more on the older types of surfaces of enamel and porcelain while scouring liquids were used more where there were stainless steel sinks. It was not known whether this was a by-product of past practices or due to specific perceptions of suitability. Information was unclear as to whether scouring powders were being replaced totally by liquid scourers or used in addition to them and to what extent liquid scourers had a major or a peripheral cleaning role.

Evidence on fabric conditioners showed that some housewives used fabric conditioners indiscriminately for the whole wash whereas others were more selective. It had also been found that owners of front loading automatics had higher consumption of fabric conditioner. It was suggested that some people might use fabric conditioner specifically when indoor drying as it gave the laundry a nice smell.

The identification of the above usage strategies and of any other possible strategies was left to analysis of the data from the questionnaires.

TABLE 9.1 - PERCEPTION OF PRODUCT TASK SUITABILITY AS SUGGESTED BY DESK RESEARCH

<u>Type of cleaning Task</u>	<u>Product Group</u>				<u>General H/hold Powders</u>	<u>General H/hold liquids</u>	<u>Liquid detergents</u>
	<u>Specialised Cleaner</u>	<u>Scouring powder</u>	<u>Scouring liquids</u>	<u>Pastes</u>			
<u>Kitchen</u>							
The sink	-	/	/	-	-	-	?
Worktops	-	/	/	-	-	-	?
Cooker tops	-	/	/	/	-	-	?
Fridge/w.m. surfaces	?	?	?	-	-	-	?
Oven	/	?	?	/	-	-	-
Kitchen utensils	/	/	?	-	-	-	/
Stainless steel equip.	-	?	/	-	-	-	/
Tiles	?	?	?	-	/	/	?
Floor	?	-	-	-	/	/	?
<u>Bathroom</u>							
Washbasin	-	/	/	/	-	-	-
Lavatory	/	/	/	?	-	-	-
Bath	-	/	/	/	-	-	-
Tiles	?	?	?	-	/	/	-
Floor	-	-	-	-	/	/	-
<u>General</u>							
Paintwork	-	?	?	-	/	/	?
Stain removal	/	/	/	-	/	/	-
Floors	-	-	-	-	/	/	-

/ = high task suitability as perceived by the housewife
 ? = not clear

TABLE 9.2 - QUESTION 4 - CREAM CLEANSER - REGULAR USE OF PRODUCTS ON SURFACES

<u>COUNT</u>	<u>Bleach</u>	<u>Scour- ing Powder</u>	<u>Cream Cleanser</u>	<u>Cleen- O- Pine</u>	<u>Washing up Liquid</u>	<u>General H/hold Cleanser</u>	<u>Scour- ing Pads</u>	<u>Disin- fectant</u>	<u>Floor Cleaner</u>	<u>Washing Powder</u>	<u>Polish</u>	<u>Soap Soda</u>
Kitchen sinks	8	14	16	-	8	3	1	-	3	-	-	-
Handwash basins	3	15	20	-	7	5	-	1	2	1	-	-
Baths	1	13	20	-	9	4	-	1	1	-	-	-
Cooker top	-	10	13	-	17	5	4	-	-	1	-	-
Pots & pans	-	5	1	-	28	-	17	-	-	-	-	-
Work tops	5	10	13	-	17	3	1	-	1	-	-	1
Other kitchen surfaces	2	10	15	-	16	5	1	-	3	1	1	1
Wall tiles	1	7	12	-	13	5	1	-	8	1	3	-
Floors	6	5	5	-	7	10	-	1	18	1	-	-
Paintwork	1	3	8	-	15	9	-	-	16	-	-	-
Draining board	3	9	11	-	20	4	1	-	2	1	-	-

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TABLE 9.3 - QUESTION 4 - CREAM CLEANSER - OCCASIONAL USE OF PRODUCTS ON SURFACES

<u>COUNT</u>	Bleach	Scour- ing Powder	Cream Cleanser	Cleen- O- Pine	Washing Up Liquid	General H/hold Cleaner	Scour- ing Pads	Disin- fectant	Floor cleaner	Washing Powder	Polish	Soap Soda
Kitchen sink	2	10	9	-	6	3	4	2	-	2	-	-
Handwash basin	1	7	8	1	-	3	-	2	1	1	-	1
Baths	1	6	7	1	2	3	-	2	-	-	-	-
Cooker top	-	9	4	-	3	4	6	-	2	2	-	-
Pots & pans	1	4	1	-	5	-	17	-	-	1	-	-
Work tops	1	7	6	-	1	5	-	-	3	2	1	-
Other kitchen surfaces	2	6	4	-	2	4	-	-	4	3	-	1
Wall tiles	-	4	3	1	1	3	-	2	3	2	2	2
Floors	-	2	1	1	1	4	-	3	6	-	-	-
Paintwork	-	5	4	1	3	3	-	-	3	-	-	-
Draining board	2	7	5	-	3	3	-	1	2	2	-	-

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TABLE 9.4FREQUENCY TABLE FOR REGULAR PRODUCT USE (CREAM CLEANSER SURVEY)

	<u>No. of Users</u>	<u>Average No. Uses per user</u>	<u>Standard Deviation</u>	<u>Range</u>
Bleach	14	2.1	1.7	1-7
Scouring powder	23	4.4	2.8	1-9
Cream cleanser	23	5.8	2.3	2-10
Cleen-O-pine	0	***	***	***
Washing up liquid	39	4.0	3.0	1-11
General H/hold Cleaner	14	3.8	3.3	1-10
Scouring pads	20	1.3	0.7	1-3
Disinfectant	2	1.5	0.7	1-2
Floor cleaner	23	2.3	1.9	1-9
Washing powder	3	2.0	1.7	1-4
Polish	4	1.0	0	1
Soap soda	2	1.5	0.7	1-2

TABLE 9.5 - PRODUCT COMBINATION USED ON EACH SURFACE

PRODUCT COMBINATIONS

<u>Surface</u>		<u>None</u>	<u>I regularly Only</u>	<u>I regularly + I occasionally</u>	<u>Other Combinations</u>
Sink	%	2	36	52	10
Basin	%	2	54	34	10
Bath	%	6	58	30	6
Cooker	%	2	40	44	14
Pans	%	6	42	42	10
Tops	%	4	46	40	10
Other	%	-	48	42	10
Tiles	%	6	50	32	12
Floors	%	4	62	20	14
Paint	%	2	62	26	10
Draining board	%	4	50	40	6
Average	%	<u>3.5</u>	<u>49.8</u>	<u>36.5</u>	<u>9.6</u>

Various exercises were used to identify possible usage strategies in the usage situation 'Cleaning household surfaces'. The following information was studied:-

Each individual's responses to question 4.

Frequency of regular product uses by surface - Table 9.2.

Frequency of occasional product uses by surface - Table 9.3.

Frequency tables for number of regular uses of each product.

Frequency tables for number of occasional uses of each product.

Summary of frequency tables for regular use of each product - Table 9.4.

Cross tabulations of number of products used regularly by number of products used occasionally for each surface.

Summary of number of products used regularly & occasionally i.e. product combinations for each surface - table 9.5.

Pearson Correlation matrix of number of uses of each product per individual with two-tailed test of statistical significance.

Regular and occasional - table 9.6

Regular - table 9.7

As can be seen from table 9.4 there were very few users of soap soda, polish, Cleen-o-pine and washing powder, so these would not play much part in usage strategies.

Products with many uses were cream cleanser, scouring powder, washing up liquid, general household cleaner, and floor cleaner. See tables 9.2, 9.3, 9.4. Negative correlation coefficients between number of uses of these products suggested that all these products compete with each other, see table 9.6.

Washing up liquid seemed to play a major role in cleaning. Mean number of uses of washing up liquid was four with a range of one to eleven uses, see table 9.4. Washing up liquid had more regular uses than occasional uses suggesting that it might be used from day to day and a stronger cleaner used occasionally. Significant negative correlations of washing up liquid with cream cleanser and general household cleaner, see table 9.7, suggested that it was seen as a substitute for them in regular use.

The use of cream cleanser vis a vis use of scouring powder was of particular interest to this study. Results showed that cream cleanser played a major role in cleaning, those using cream cleanser used it on average for 5.8 cleaning tasks with a range of 2 to 10, see table 9.4. Cream cleansers were used more often on bathroom surfaces than on kitchen surfaces, whereas scouring powder was used as often on kitchen surfaces as on bathroom surfaces (see table 9.2).

A comparison of regular and occasional uses shows that a higher proportion of scouring powder uses are occasional (40%) than is the case for cream cleanser uses (30%), this suggests cream cleanser is more likely to be used from day to day and scouring powder more likely to be used occasionally - possibly for difficult jobs (see tables 9.2 and 9.3).

When the responses of each individual were studied it was found that eight people used neither cream cleanser or scouring powder, seventeen used scouring powder but not cream cleanser, twelve used cream cleanser but not scouring powder and thirteen used both. When the responses of those using both were studied it was found that all seemed to have a logical strategy for using the two products but it was not possible to generalise e.g. to find a group who used cream cleanser only in the bathroom and scouring powder only in the kitchen or a group who used cream cleanser regularly and scouring powder occasionally.

An attempt was made to test whether uses of cream cleanser and scouring powder was different if respondents had a stainless steel sink. However it was found that all but four of the respondents had stainless steel sinks so no comparison could be made.

In the correlation matrix of number of uses of products (see table 9.6 and 9.7) there was not much evidence of positive correlations between products but a positive correlation between bleach, disinfectant and scouring pad use for regular plus occasional uses suggested that there might be a strong products user group. A positive correlation between cream cleanser and disinfectant users could not be followed up as the number using both products was so small (see table 9.7).

By far the most common patterns of product use on surfaces were either to use one product regularly only or to use one product regularly and

one occasionally (see table 9.5).

It had been hoped to identify specific patterns of usage strategy such as a strategy, 'to use washing up liquid regularly and scouring powder occasionally on kitchen surfaces'. However it was not possible to group people according to such specific strategies. It seemed that everyone had a logical pattern of combining the matrix variables but everybody's pattern was different.

As it was not possible to identify specific patterns of combining several products to clean different surfaces, less specific measures of usage strategy were used based on the use or number of uses of products. One usage strategy hypothesised was that of using washing up liquid for many tasks. The information on product usage had shown that washing up liquid was a much used general cleaner which seemed to be used instead of other products such as cream cleanser for regular cleaning jobs. Washing up liquid has different attributes from other general cleaners so use of washing up liquid might be associated with particular beliefs about cleaning. A measure of usage strategy related to washing up liquid was created with two groups defined as 'low' users if they used washing up liquid for one task or none and 'high' users if they used washing up liquid for more than one task.

A second strategy hypothesised was that of 'Strong cleaner use'. Positive correlations between bleach, disinfectant and scouring pads had suggested that there might be some housewives who like to use what are thought of as 'strong cleaners'. A measure of use of strong cleaner was created based on the use of disinfectant, scouring powder, scouring pads, bleach and soap soda. A score of one was given for every occasional use of a product and two for every regular use of a product. After frequency tables for the score had been studied respondents were grouped into a 'low use' group who scored 0 to 2, these made up 38% of the sample, 'a medium use' group who scored 3 to 4 made up another 38% of the sample and a high use group who scored 5 to 9 made up 24% of the sample.

The choice of this 'strong cleaner use' grouping can be criticised in that it did not differentiate between chemical strength (disinfectant, bleach and soap soda) and abrasive strength (scouring pads and scouring powder).

Another grouping hypothesised was the use of 'Germ-killing cleaners'. This grouping was not identified from evidence in the survey of product use but was used to aid testing of the second hypothesis - that usage strategy is related to usage beliefs. It was thought that users of 'Germ killing cleaners' should rate the objective of 'Getting rid of germs' as more important. A measure of use of 'Germ killing cleaners' was created based on the use of bleach, disinfectant and Cleen-o-pine (which the researcher thought were most likely to be seen as having germ killing properties). A count of the number of uses of the products both regular and occasional was made and it was decided to split the respondents according to whether they had at least one use of a germ killing product. Two groups were used - users who made up 40% of the sample and non users who made up 60%.

As noted above the pattern of cream cleanser use vis a vis scouring powder use was of particular interest but particular generalisable patterns of use of the two products could not be identified. It was hoped that if respondents were grouped according to use of cream cleanser and according to use of scouring powder comparison of these groups would throw light on the differences in beliefs about the use of the two products. Thus two more usage groups studied were 'Cream cleanser use' and 'Scouring powder use'.

Another grouping to be investigated was the total number of products used on surfaces. It was thought that those using few types of products would be using one product for many jobs whereas those using a larger number of products might use more cleaners for specialist uses. Respondents were grouped according to the total number of products used regularly with the 'low product use' group using 0 to 2 products regularly (28%), the 'medium' product use group using 3 or 4 products (60%) and the 'high' product use group using 5 to 7 products (12%). Respondents were also grouped according to the total number of products used regularly or occasionally with the 'low' product use group those using 0 to 3 products (24%) the 'medium' product use group using 4 or 5 products (52%) and the 'high' product use group using 6 to 9 products (22%).

Usage strategy in the fabric conditioner questionnaire was measured by question 14 for fabric conditioner users and question 15 for non users.

The identification of usage strategies in the fabric conditioner case was restricted because of respondents' misunderstanding of question 14. In question 14 the fabric conditioner users were first asked to state whether they used a particular process e.g. whether they handwashed sheets. If they said they did they were then asked to state whether they used fabric conditioner regularly, occasionally or not at all for that process. However a summary table of the responses showed an unusual pattern. For example 30 of the user group said that they handwashed sheets, towelling, and woollens also 30 users said they machine washed sheets, towelling and woollens. In fact this 30 had responded positively to almost every process. The best explanation of this seemed to be either that respondents had interpreted the first question as 'Have you ever hand washed sheets?' etc or that users had bypassed the first question and answered the second question in the manner 'If I handwashed sheets I would/would not use fabric conditioner'. If either explanation was true it would not be possible to use the responses as indicators of normal washing patterns. It was hoped that some information could be salvaged from the question however. It might be that, although the replies concerning washing process used were incorrect, the responses as to whether fabric conditioner was used could still be correct. In order to develop a measure of type of use of fabric conditioner it was decided to concentrate solely on the situation of machine washing. This was in order to get around the misunderstood question as it was expected that most housewives would machine wash the items (with the exception perhaps of woollens). A frequency table for use of fabric conditioner in machine washing is given in table 9.9.

The aim was to group respondents according to whether they used fabric conditioner for most washing tasks, for a few washing tasks or not at all. A study of the pattern of individual responses showed that a distinctive group who had many regular uses could be identified. The study suggested that the best way to group respondents was to split them so that 'high' users were those with six or more regular uses (24%) the 'lower' users were those who used fabric conditioner for less than six tasks regularly and more than one occasionally (28%). The non users included all those who never used fabric conditioner plus those who didn't use fabric conditioner for machine washing (44%). There were also

TABLE 9.9 - USE OF FABRIC CONDITIONER FOR MACHINE WASHING
(FABRIC CONDITIONER USERS 34)

<u>Count</u>	<u>Use</u>	<u>Don't use</u>	<u>Not appropriate</u>
Woollens	15	15	4
Towelling	23	7	4
Underwear	21	9	4
New or special clothes	12	18	4
Manmade/nylon sheets	12	15	7
Manmade/nylon shirts & blouses	17	12	5
Cotton sheets	17	13	4
Other cottons	17	11	6
Nappies	5	2	27
Baby clothes	4	2	28
	<hr/>	<hr/>	<hr/>
Average	14.3	10.4	9.3

three respondents who used fabric conditioner for one task occasionally, these were classed in a separate group as it was not certain whether this use was sufficient to classify them as users.

The resulting groupings did produce results that appealed to reason (see following sections). This suggested that a successful measure of fabric conditioner use had been achieved. However the measure must be treated with some caution due to the possible misunderstanding of the question.

The question on usage strategy put to non users of fabric conditioner had been understood. It was worded more simply and only allowed respondents to name one wash method or wash product used on each item which meant the one most commonly used would be mentioned. The main purpose of measuring non users' strategies had been to compare them with users strategies (e.g. for differences in washing or drying patterns). As the users' strategies could not be measured there was little point in looking at non users' strategies in isolation.

Conclusions

The initial hypothesis was neither proved nor disproved. It had not been possible to identify distinctive patterns of use which were common to a number of respondents. This may have been due to the fact that techniques were not available to identify patterns in the data. In the fabric conditioner survey no work could be done because the question had been misunderstood. Failure to identify generalisable patterns in the cream cleanser data could also be because each individual has a distinctive usage strategy but usage strategies are so varied that strategies common to groups of people cannot be identified.

Cruder measures of products used or number of products used were suggested as guides to usage strategy. These were more or less imposed by the researcher rather than being identified from data. It was hoped that these rough groupings would enable a test of the second hypothesis.

The groupings suggested for the usage situation 'Cleaning household surfaces' are summarised below:-

<u>Subject</u>	<u>Strategies</u>	<u>Percentage of Sample</u>
Washing up liquid use	'Light use' = one or no use	34%
	'Heavy use' = two or more uses	60%
Cream cleanser use	'Use' = use cream cleanser on one or more surfaces	50%
	'Do not use' = do not use cream cleanser on one or more surfaces	50%
Scouring powder use	'Use' = use scouring powder on one or more surfaces	50%
	'Do not use' = do not use scouring powder on one or more surfaces	50%
'Strong cleaner' use	'Low use' = score 2 or less for use of scouring powder, bleach, disinfectant, scouring pads & soap soda	38%
	'Medium use' = score 3 or 4 for use of above	38%
	'High use' = score 5 to 9 for use above	24%
'Germ killing cleaner' use	'Use' = use disinfectant, bleach or Cleen-o-pine on surfaces at least once	40%
	'Do not use' = do not use the above on surfaces	60%
Total number of products used regularly	'Low use' = 0 to 2 products used regularly	28%
	'Medium use' = 3 and 4 products used regularly	60%
	'High use' = 5 to 7 products used regularly	12%
Total number of products used occasionally or regularly	'Low use' = 0 to 3 products used occasionally or regularly	26%
	'Medium use' = 4 or 5 products used regularly or occasionally	52%
	'High use' = 6 to 9 products used regularly or occasionally	22%

The grouping suggested for the usage situation 'Doing the household wash' was:

<u>Subject</u>	<u>Strategy</u>	<u>Percentage of Sample</u>
Use of fabric conditioner for machine wash	'High use' = use fabric conditioner for six or more tasks regularly	24%
	'Low use' = use fabric conditioner for less than six tasks regularly and more than one occasionally	28%
	'Do not use' = never use fabric conditioner or never use for machine wash	44%
	Other = use fabric conditioner for one task occasionally	6%

9.3 HYPOTHESIS 2

'A usage strategy is a pattern of combining the matrix variables in order to best satisfy the user's usage goals. Usage strategies are associated with particular usage goals'.

The usage strategy groups proposed in 9.2 were used to test whether usage goals varied with usage strategy.

In the cream cleanser analysis the goals measured in question 4b were used. These were found to be the clearest indicators of priorities as respondents ranked the goals in order of preference. Question 5a was unsatisfactory because almost all respondents answered 'very important' or 'fairly important' so it was difficult to distinguish between goals. In question 6 on importance perception a large majority of responses to each statement were 'important' which also made it difficult to identify the differences in importance. It was also found that certain usage strategy groups had a greater tendency to rank all objectives as 'important' which made it difficult to identify any differences in priorities between groups. See section 9.6.

If a respondent answered that a goal in question 5 was 'very important' or 'fairly important' she was then asked to rank it in order of importance with a 1 recorded for most important to 8 for least important. Those goals which were not considered important were not ranked. To facilitate the analysis all goals which were not ranked were later given a ranking of 8.

Mean rankings for each goal were calculated (see table 9.8). Respondents were then split into the various usage strategy groups and mean rankings for each goal were calculated within the group. An F test was used to test for difference between the groups.

Table 9.8a shows the mean rankings of goals for the whole sample and tables 9.8a and 9.8b show mean rankings of goals for each group.

The overriding tendency is for ranking of goals to remain constant over groups. The ordering of goals rarely differs from the ordering of the mean of the whole sample and when it does only by one position. The number of significant differences is low; only three differences are significant at the 95% level out of a possible 56 differences, so that

TABLE - 9.8a - BREAKDOWN OF MEAN RANK OF OBJECTIVES BY USAGE GROUP

Mean Significance level	<u>All respondents</u>		<u>Cream cleanser</u>		<u>Scouring powder</u>		<u>Washing up liquid</u>		<u>Germ killing cleaners</u>	
	Mean	Standard Deviation	Use (25)	Don't use (25)	Use (23)	Don't use (27)	Light (17)	Heavy (33)	Use (20)	Don't use (30)
Getting rid of stains or grease	2.1	1.4	1.8	2.4	2.6	1.7	2.1	2.1	2.05	2.1
				0.11		0.025	X			X
Getting rid of germs	2.2	1.6	2	2.5	2.1	2.3	2.6	2.0	1.8	2.5
				0.25		X		0.17		0.13
Getting surfaces shiny	6.0	1.7	6.4	5.6	6.1	5.9	5.7	6.1	5.9	6.0
				0.1		X		X		X
Keeping surfaces looking new	5.5	1.7	5.9	5.0	5.3	5.6	5.3	5.6	5.6	5.4
				0.07		X		X		X
Leaving everything smelling nice	5.1	1.9	4.5	5.8	5.4	4.9	5.4	5.0	5.0	5.2
				0.02		X		X		X
Using product which does the job quickly and easily	4.6	1.9	4.2	5.0	4.8	4.3	4.8	4.4	5.15	4.2
				0.13		X		X		0.07
Using one cleaner for as many jobs as possible	4.1	2.0	3.8	4.3	4.3	3.9	4.3	4.0	4.0	4.1
				X		X		X		X

X = Not significant

TABLE 9.8b - BREAKDOWN OF MEAN RANKS OF OBJECTIVE BY USAGE GROUP (continued)

Mean Significance level	Total regular use			Total regular + occasional use			'Strong Cleaners'		
	Low (14)	Medium (30)	High (6)	Low (13)	Medium (26)	High (11)	Low (19)	Medium (19)	High (12)
Getting rid of stains or grease	2.2	2.1 X	1.8	2.0	2.3 X	1.7	1.5	2.3 0.1	2.2
Getting rid of germs	2.8	2.0 X	1.8	2.8	2.0 X	2.0	2.6	2.1 X	1.75
Getting surfaces shiny	6.1	5.9 X	6.2	6.5	5.5 X	5.9	6.3	5.5 X	6.2
Keeping surfaces look'g new	5.6	5.4 X	5.5	4.9	5.7 X	5.5	5.6	5.2 X	5.75
Leaving everything smelling nice	5.2	5.2 X	4.3	5.5	5.2 X	4.5	4.8	6.0 0.02	4.2
Using product which does the job quickly & easily	4.4	4.6 X	5.0	4.9	4.4 X	4.5	4.6	4.3 X	4.9
Using one cleaner for as many jobs as possible	3.9	4.2 X	4.0	4.6	3.6 X	4.5	4.1	4.3 X	3.8

X = Not significant

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TABLE 9.10 - TABLE OF MEAN RANK OF GOALS BY USAGE GROUP FABRIC CONDITIONERS

<u>Goal</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>'High use' (12)</u>	<u>'Low use' (13)</u>	<u>'Do Not use' (22)</u>	<u>Significance</u>
Keeping woollens & special things soft	2.7	1.8	2.4	2.5	3.0	X
Keeping all the washing soft	4.2	2.4	3.5	5.2	4.4	0.08
Making clothes nice to feel & wear	4.1	2.2	3.5	4.4.	4.4	X
Keeping clothes looking new	5.0	2.6	5.7	4.5	5.0	X
Giving the washing a nice fresh smell	5.5	2.2	5.6	6.0	5.3	X
Making things easier to iron	6.4	2.4	6.6	6.6	5.9	X
Feeling proud that the family's clothes look really well cared for	5.6	2.5	5.6	6.2	5.1	X
Getting the washing over & done with quickly	5.8	2.6	5.9	5.4	5.7	X
Getting rid of static electricity on synthetics	6.6	2.2	5.9	5.8	7.4	0.15

it is possible that these differences could have arisen by chance.

What trends there are can be compared with trends that might be intuitively expected. There is a significant tendency for scouring powder users to rank 'Getting rid of stains or grease' as less important than non users. Intuitively one would have expected users to rank this objective as more important as scouring powder is an abrasive cleaner and in the depth interviews respondents had recognised its abrasive and stain removing characteristics. On the other hand there is a slight tendency for cream cleanser users to rank 'Getting rid of stains or grease' as more important than non users. This is again surprising as the information from Lever Brothers suggested that cream cleanser was perceived as being less effective than scouring powder at getting rid of stains.

'Germ killing cleaner' users rank 'Getting rid of germs' more highly than do non users which is to be expected.

When both the grouping based on total number of products used regularly and that based on products used regularly and occasionally are considered there is no tendency for those with low product use to rank 'Using one cleaner for as many jobs as possible' as more important than groups with higher product use although intuitively one would have expected low users to rank these objectives more highly.

High users of strong cleaners do not rank 'Getting rid of stains or grease' as highly as do low users but they do rank 'Getting rid of germs' more highly. As this grouping included both strong germ killing products and strong abrasive products it was impossible to predict which objectives would be the most important.

Although using washing up liquid for many tasks had appeared to be quite a definite usage strategy it does not seem to be characterised by any differences in goals.

The analysis was repeated for the fabric conditioner survey. The equivalent question to rank goals was question 4b. Mean rankings of goals were calculated for the usage strategy groupings described in section 9.2 in order to test whether goals varied by usage group. The results are shown in table 9.10. The order of priority of goals did not vary much by group with all groups ranking 'Keeping woollens and special

things soft' as the most important. There does not seem to be much difference at all between the 'high users' of fabric conditioner and non users of fabric conditioner, however the 'low users' priorities varied somewhat. In particular low users rated 'Keeping all the washing soft' lower than both high users and non users. This ties in with the usage strategy of only using fabric conditioner for some washing tasks. The difference between groups is significant at the 90% level. Also the fact that non-users rate 'Getting rid of static electricity' lower than users could tie in with that usage strategy, as long as people use fabric conditioner for getting rid of static electricity. Other differences between 'low users' and other groups do not tie in with any prior expectations of links between goals and usage strategy e.g. that 'Keeping clothes looking new' is rated higher.

CONCLUSIONS

The relative importance of usage goals does not seem to vary much over usage strategies. When goals do vary evidence is contradictory about whether differences in goals seem appropriate to the particular usage strategy. It could be argued that an association between goals and usage strategy has not been found because the real usage strategies were not identified and that group means were near the sample mean because the groupings were false. This could not be solved without a better method of identifying usage strategies. If goals can be used to predict usage strategy it would be useful to look particularly at goals such as 'Getting the washing over and done quickly' and 'Feeling proud that the family's clothes look really well cared for' where priorities vary considerably over individuals rather than those such as 'Keeping woollens soft' where priorities are relatively consistent.

Given the information available however it seems best to assume that usage goals do not explain usage strategy and to look elsewhere for an explanation of differences in strategies.

9.4 HYPOTHESIS 3

'The pattern of the usage strategy will not only depend on the subject's usage goals but also on the subject's beliefs about the capabilities of the products to fulfill the goals'.

In the cream cleanser survey beliefs about products were only measured for cream cleanser. It would have been useful to compare beliefs about the suitability of other products when considering how products were combined. However limitations on the time possible for administering a questionnaire meant that beliefs about all the products were not considered. Questions comparing cream cleanser and scouring powder were included as the role of scouring powder compared with cream cleanser was of particular interest.

The beliefs about cream cleanser were taken from depth interviews and are in question 25 of the questionnaire. Respondents were asked to answer whether each statement was Definitely true, Probably true, Probably untrue or Defintielly untrue.

As beliefs about cream cleanser were mainly appropriate to the usage strategy related to cream cleanser the beliefs of users and non users of cream cleanser were compared. Mean belief scores were calculated for the whole sample and for the group of users and non users of cream cleanser. (information on use of cream cleanser was taken from question 8 'Does respondent normally use a cream cleanser') An F test was carried out for difference between the groups (see table 9.1|).

The test was repeated on the fabric conditioner data using the equivalent question on beliefs about fabric conditioner - question 25. Mean belief scores for fabric conditioner usage groups were calculated (see table 9.11).

The tables show that users' beliefs about the product are always more favourable than non-users beliefs and differences between the groups are often significant at the 95% level. In table 9.12 it can be seen that 'Lower users' beliefs are more favourable than 'Non users' and that 'High users' beliefs are more favourable than 'Lower users', with the exception of 'Keep clothes looking new'. N.B. 'favourable beliefs' includes disbelief of negative claims .

TABLE 9.12 - BELIEFS ABOUT FABRIC CONDITIONER - MEAN BELIEF SCORE BY USER GROUP

	<u>'High use'</u> (11)	<u>'Lower use'</u> (13)	<u>'Other'</u> (3)	<u>'Non user'</u> (20)	<u>Significance</u>
Fabric conditioner keep woollens soft	1.0	1.3	1.7	1.7	0.000
Fabric conditioner keep all washing soft	1.2	1.5	1.7	2.0	0.006
Fabric conditioners make clothes nice to feel & wear	1.1	1.6	1.7	2.0	0.000
Fabric conditioners keep clothes looking new	2.1	1.9	2.0	2.5	0.160
Fabric conditioners leave a nice fresh smell in washing	1.0	1.4	1.3	1.8	0.008
Fabric conditioners stop man-made fibre crackling & cling	1.5	2.2	3.3	2.6	0.001
Fabric conditioners make ironing easier	1.9	2.5	3.3	2.9	0.022
Fabric conditioners add too much to the cost of the wash	2.7	2.4	3.0	2.0	0.150

Key 1 = Definitely true
 2 = Probably true
 3 = Probably untrue
 4 = Definitely untrue

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TABLE 9.11 - BELIEFS ABOUT CREAM CLEANSER - MEAN BELIEF SCORE BY USE OF CREAM CLEANSER

	<u>All</u> (48)	<u>Use</u> (27)	<u>Do not use</u> (21)	<u>Significance</u>
Cream cleansers do not scratch surfaces	1.9	1.9	2.0	X
Cream cleansers rinse away easily	2.1	1.9	2.3	0.06
Cream cleansers are the product to use if you want to keep things looking as good as new	2.3	1.9	2.9	0.000
Cream cleansers are more expensive than scouring powders	1.6	1.6	1.7	X
Cream cleansers are not as good as scouring powders for getting most things off surfaces	2.4	2.6	2.2	X
Cream cleansers leave everything shiny	2.1	1.9	2.5	0.004
Cream cleansers are more pleasant to use	1.9	1.5	2.45	0.000
Cream cleansers are effective in getting rid of germs	2.3	1.9	2.7	0.000
Cream cleansers leave a pleasant smell	1.9	1.7	2.05	0.003
Cream cleansers may taint food if used on worktops	2.8	2.7	2.8	X
Cream cleansers are convenient to use for lots of different jobs	2.1	1.7	2.6	X
Cream cleansers may taint food if used in pots & pans	2.8	2.7	2.8	X

Key 1 = Definitely true
 2.= Probably true
 3 = Probably untrue
 4 = Definitely untrue

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Differences in beliefs about cream cleanser seem to be particularly marked for evaluative beliefs such as 'Keep things looking good as new' and 'are more pleasant to use'. However on more descriptive beliefs such as 'do not scratch surface' and 'are more expensive than scouring powders' the users and non users do not vary much.

The implications of the beliefs about cream cleanser for usage strategies are that both non users and users tend to believe that cream cleansers do not scratch surfaces and that cream cleansers are more expensive than scouring powders. Both users and non users tend to think it is untrue that cream cleansers are not as effective as scouring powders for getting most things off surfaces. Users of cream cleanser are more likely than non users to believe that cream cleansers are effective in getting rid of germs.

CONCLUSIONS

It has been shown that users' beliefs about a product are more favourable than non users. What we cannot say is whether these more positive beliefs explain usage strategy or whether they are a result of usage strategy (as beliefs about a product or brand often become more favourable after use).

It was not possible to test whether usage beliefs affect the way products are combined in a usage strategy as there was insufficient information about beliefs about products.

9.5 HYPOTHESIS 4

'Problems expressed will be linked in some way with usage strategy and usage goals. The way these are linked will be identified. It is possible that a usage strategy may involve a trade off of usage goals and that problems may reflect goals that are not satisfied 'by the strategy'.

Why did people express problems with some goals and not with others? In case people were more likely to express problems with their most important goals a test was carried out for association between importance of goals and problems with goals. For cream cleanser the results of a correlation between question 6 - the importance of goals and question 7 - problems with achieving those goals are shown in table 9.13. The correlation was between scores of 1 for problem expressed or objective important and 0 for 'No problem' or goal 'Not important'. It can be seen that the correlation coefficients are not all of the same sign which suggests that there is no general positive association between problems and importance. Three goals have a correlation approaching significance. One goal 'Taking care of stainless steel' has a correlation significant at the 95% level. It was thought that importance of and problems with this objective could be linked to possession of stainless steel surfaces but a check of the results of the classification section showed that all except two respondents possessed a stainless steel sink and draining board. The only variation was in ownership of a stainless steel cooker. Owners of stainless steel cookers did rank this goal and problem more highly but as there were only five of them it was impossible to draw conclusions from this.

For the fabric conditioner survey the results of a correlation between question 5 the importance of goals and question 6 the problems experienced in achieving those goals are shown in table 9.14. It can be seen that one correlation is significant at the 90% level that for 'Harsh powder or washing machine action harming clothes and things' but this is a negative correlation. This is difficult to explain if it is a real trend, it should be noted that 86% of respondents said this objective was important and 22% expressed problems. One correlation is significant at the 95% level that for 'Man made items not crackling and clinging'.

TABLE 9.13 - CORRELATIONS OF OBJECTIVES EXPRESSED AS A PROBLEM OR NOT
A PROBLEM WITH CORRESPONDING OBJECTIVES EXPRESSED AS IMPORTANT

	<u>Correlation</u>	<u>Significance</u>
Avoid taking shine off surfaces	0.23	0.054
Not doing a lot of rinsing	-0.04	0.40
Not scratching the surface	0.16	0.13
Not tainting the food after using the cleaner on the worktop	-0.12	0.21
Not leaving the surface dull and smeary	-0.14	0.17
Keep down the costs of cleaning by using only a few kinds of cleaners	0.14	0.23
Finding cleaners that are strong enough	0.07	0.32
Not having to use many different products for cleaning jobs	-0.19	0.092
Avoiding cleaners which are too harsh	0.17	0.12
Taking care of stainless steel	0.28	0.025
Taking care of formica type surfaces	-0.08	0.29
Taking care of enamel type surfaces	0.02	0.46
Keep down the cost of cleaning by using products carefully	0.06	0.33
Taking care of chrome	0.11	0.23

TABLE 9.14 - CORRELATION OF OBJECTIVES EXPRESSED AS A PROBLEM OR NOT
A PROBLEM WITH CORRESPONDING OBJECTIVES EXPRESSED AS IMPORTANT -
FABRIC CONDITIONER

	<u>Correlation</u>	<u>Significance</u>
Fabric getting twisted & matted	0.23	0.06
Clothes & towels getting hard	0.16	0.13
Man-made items crackling and clinging	0.33	0.009
Harsh powder or washing machine action harming clothes and things	-0.20	0.08
Not being sure all the powder is rinsed out	0.17	0.11
The cost of using several different washing products	-0.06	0.33
The washing not having a nice smell when its dried indoors	-0.04	0.38
Items smelling unpleasant when they are being washed or ironed	0.06	0.35
Having to sort out the washing and wash different things separately	0.17	0.12

TABLE 9.15 - COMPARISON OF PROBLEM PERCEPTION FOR FABRIC CONDITIONER USER GROUPS

<u>Goals</u>	<u>Percentages of groups with problems</u>				<u>Significance</u>
	<u>All</u> (50) %	<u>High use</u> (12) %	<u>Lower use</u> (13) %	<u>Do not use</u> (22) %	
Fabric getting twisted & matted	26	8	31	27	X
Clothes & towels getting hard	38	25	54	36	X
Man-made items crackling & clinging	32	17	46	36	X
Harsh powder or washing machine action harming clothes & things	22	8	31	23	X
Not being sure all the powder is rinsed out	32	25	46	23	X
The cost of using several different washing products	26	8	46	18	0.05
The wash not having a nice smell when it is dried indoors	14	0	23	14	X
Items smelling unpleasant when they are being washed or ironed	8	8	0	8	X
Having to sort out the washing and wash different things separately	36	25	46	32	X
Average percentage perceiving problems	26	13.8	29.9	24.1	

As in the stainless steel response this goal is related to a particular item. It might be that those who use a lot of man made materials see 'not crackling and clinging' as more important and more of a problem.

A correlation of total number of objectives important and total number of problems expressed was negative and not significant. This suggested that there was little problem of yea sayers who would respond to everything both problems and importance.

The results suggested that there was no tendency for problems and importance of goals to be positively associated except perhaps in particular cases.

In order to identify whether particular problems were associated with particular usage strategies a table was produced showing the proportion of each usage strategy group expressing problems with each goal. Also a significance test was carried out to test for differences between the groups. The table for fabric conditioner use is 9.15 (the three 'other' uses have been omitted for clarity). Although the main aim of the analysis had been to compare differences in problem expression for different goals it can be seen that there is an overriding tendency for the 'High users' of fabric conditioner to express less problems than average for every goal except one, and for 'lower users' of fabric conditioners to have more problems than average for every goal except one.

The non users on the other hand have about the average number of problems for most goals. These results are difficult to explain because of the fact that the 'Lower users' of fabric conditioner have more problems than the 'High users' or the 'Non users'. This would not support an explanation that respondents see the strategy of using fabric conditioner as solving their problems. It may be useful to consider what low use of fabric conditioner means - it could be taken as 'specialist' use e.g. using fabric conditioner for a few tasks that are seen as appropriate or it could be seen as light use with little planning of function. The information on usage beliefs does not throw light on the problem for 'Low users' beliefs about fabric conditioner were more favourable than non users and did not vary in priority from other groups. The 'Lower users' do have a higher proportion of occasional uses than the 'High users' so it may be possible that they operate a strategy of using some-

times but not always because they are not convinced and so are more likely to perceive problems. In this case we could see both the 'high users' and 'non users' of fabric conditioner as satisfied with their usage strategies and therefore less likely to perceive problems, whereas the lower users are not satisfied and therefore perceive more problems. According to PRISM theory it would therefore be likely that this group are 'risk perceivers' (see chapter 10). Another explanation could be that 'high users' have less problems because they have better washing facilities (see section 9.6). High users are more likely to have an automatic and a tumble dryer.

If there is a trade off of objectives we should find that a particular strategy will satisfy some objectives and not others and that the unsatisfied objectives will be expressed as problems. There is some evidence of this from the fabric conditioner example. Intuitively one would expect that the strategy of not using fabric conditioner would satisfy the goal of 'Not having the cost of using several different washing products' and that therefore the non users would express less problems with this goal. The table shows that less non users express this problem than in the whole sample and that whereas it is the sixth most common problem for non users it is one of the second most common problems for the 'low users' of fabric conditioner. The difference between groups for this problem is significant. The non users also express less problems with 'Not being sure all the powder is rinsed out' possibly this problem occurs with fabric conditioner use. If the trade off strategy hypothesis holds true the user should be getting some advantages from the fabric conditioner in terms of less problems with some objectives. There is a weak suggestion of this with a higher proportion of non users problems being made up by 'Not crackling and clinging' and 'Fabric getting matted' than is the case for other groups. These are goals which one might expect to be satisfied by the use of fabric conditioner.

To investigate any connection between usage strategies and problems perceived in the cream cleanser survey, tables were produced showing the proportion of each usage strategy group expressing each problem and an F tests were carried out for difference between the groups. The summary table produced was very large and is not included here. It was

TABLE 9.16 - PREDICTED LEVELS OF GROUP PROBLEM PERCEPTION COMPARED WITH ACTUAL LEVELS

Usage Strategy Group

	High use of washing up liquid		Use scouring powder		Use strong cleaners		Use cream cleansers		High total use of products	
	Predicted	Actual	Predicted	Actual	Predicted	Actual	Predicted	Actual	Pred.	Actual
Taking the shine off surfaces	-	+	+	-	+	-	?	-0.13	0	0
Doing a lot of rinsing	0	0	+	-	0	0	0	0	0	0
Scratching the surface	-	-0.19	+	-0.08	0	0	0	0	0	0
Leaving the surface dull & smeary	0	0	+	-	0	0	0	0	0	0 ¹¹⁸
Keeping the cost of cleaning down by only using a few cleaners	-	+	0	0	0	0	-	-0.07	+	-
Finding cleaners that are strong enough	+	-	-	-	-	-	0	0	0	0
Having to use many products for different cleaning jobs	-	-	0	0	0	0	0	0	+	-
Cleaners which are too harsh	-	+0.08	+	-	0	0	-	+	0	0
Taking care of stainless steel										

Key 0 = no prediction - = below mean problem level + = above mean problem level 0 = significant level if near significant

noted from this table that some usage groups expressed more problems than average for each goal - (a finding which was repeated in the fabric conditioner survey). Non users of cream cleanser and the group having a low total number of products used had this tendency. This result had not been predicted in advance. That low use of cleaners could result in more problems seems reasonable but the low users even expressed more problems on 'Having to use many products for different cleaning jobs' is difficult to explain.

In order to test the hypothesis that problems expressed were the result of goals unsatisfied by the usage strategy, the problems most likely and least likely to be expressed for each usage strategy were predicted and the predictions were compared with the actual trends for the usage groups. For example it was predicted that those using a high number of products would be more likely to express problems with 'Keeping down the cost of cleaning by using only a few kinds of cleaners' and 'strong product' users were expected to be less likely to express problems with 'Finding cleaners that are strong enough'. In fact, of the 22 predictions, in only six cases was the prediction in the right direction and 16 were in the wrong direction. For a comparison of predicted and actual results see table 9.16. There was no evidence of a trade off strategy from the cream cleanser survey.

Also there were few significant differences between the groups in number perceiving a problem which suggested that types of problem perceived did not vary with usage strategy.

CONCLUSIONS

The tests carried out have not produced a satisfactory explanation of differences in problem perception. There was little evidence of a positive association between goals perceived important and problems with goals. There was some evidence from the fabric conditioner survey that respondents traded off goals in their usage strategy and that unsatisfied goals were expressed as problems but this was not confirmed in the cream cleanser survey. There were few significant differences between usage groups for proportion perceiving particular problems, this suggests that either problem perception cannot be explained by usage strategy or that again the 'real' usage strategy groups had not been identified.

Some usage groups were found to have a greater tendency to express problems than others, various explanations for this have been discussed but no conclusion has been reached.

9.6 OTHER CHARACTERISTICS OF USAGE STRATEGY GROUPS

During the analysis of usage strategy groups it was found that a higher proportion of cream cleanser users, strong cleaner users, and users of many products perceived each goal as important. This was true for every goal except 'not doing a lot of rinsing'. These groups did not have a greater tendency to express problems, in fact the reverse was true so these respondents were not merely 'yea sayers'.

This tendency suggested that there might be a distinct group of 'highly motivated' users who perceived all objectives as important or all objectives except 'not doing a lot of rinsing' (possibly seen as a lazy option?). Highly motivated users tended to use more products and certain products.

This was tested by comparing the 'highly motivated' group described above with other respondents. 44% of respondents were in the highly motivated groups. Group mean use of cream cleanser, all products and strong cleaners was compared with the rest of the sample. Also mean problem levels were compared as there had seemed to be a tendency for the highly motivated group to express less problems. Although differences between means were in the direction expected none of the differences were significant at the 95% level.

It was found that respondent's were more likely to be 'high' fabric conditioners users if they owned an automatic with a fabric conditioner dispenser. Also those under 35 were more likely to be fabric conditioner users and to be 'high users' whereas those over 34 were less likely to use fabric conditioner and more likely to be low users if they did use. This result can be explained by the fact that under 35's were more likely to own an automatic with a dispenser. They were also more likely to own a tumble dryer.

9.7 SUMMARY

The PRISM concept of usage strategy has been broken down into four hypotheses (see 5.1) and tested on the data from two surveys - 'the cream cleanser survey' and 'the fabric conditioner survey'.

Hypothesis 1 - It was not possible to identify usage strategies of the nature hypothesised i.e. patterns made up from a matrix of variables, as it was not possible to identify generalisable patterns in the data. Simpler versions of usage strategies were developed in place of these. These usage strategies were based on product used or group of products used. It was hoped that these 'usage strategy' groupings would prove adequate to test the remaining hypotheses.

Hypothesis 2 - Tests for association between particular goals and usage strategies showed no association. Priority of goals differed little from the priorities of the whole sample for the strategy groups tested and when a difference in priorities was found it as often as not went against the priorities expected for that strategy. This result can be interpreted in two. One interpretation is that the usage strategies used in the test were not the 'real' usage strategies which is why group means did not differ from sample means. The second interpretation is that housewives usage goals do not vary much and that differences in their usage strategies can be explained by other variables. It should be noted that the Flora study on which the PRISM concepts were based did not identify differences in goals. In future work to test this hypothesis it may be useful to identify goals which do vary over individuals and work backwards to identify strategies associated with these goals rather than working from strategies to goals as in this survey.

Hypothesis 3 - A test of this hypothesis was limited as it was not possible to compare beliefs about different cleaners in order to compare these with different usage strategies. This was because the number of questions asked in the questionnaire was limited. Analysis of beliefs about cream cleanser and fabric conditioner showed that users were more likely to have favourable beliefs about the product than non-users and this was particularly true of evaluative beliefs as compared with descriptive beliefs. It was not known whether the product was used

because of favourable beliefs or whether favourable beliefs were due to product use. There were no big differences in the order of beliefs i.e. both users and non users agreed about which statements were more likely than others.

Hypothesis 4 - Tests of this hypothesis found little explanation of differences in problem perception. There was little evidence of a positive association between goals perceived important and problems with goals. There was no evidence from the cream cleanser survey that respondents traded off goals in their usage strategy and that unsatisfied goals were expressed as problems, but there was some evidence of this from the fabric conditioner survey. There were few significant differences between usage groups for proportion perceiving particular problems, this suggests that either problem perception cannot be explained by usage strategy or that again the 'real' usage strategy groups were not used. Some usage groups were found to have a greater tendency to express problems than others, various explanations for this have been discussed but no conclusion has been reached.

In considering the effects of beliefs on usage strategy it should not be forgotten that situational factors also play a part in determining strategy. It was found that owners of automatics with fabric conditioner dispensers were more likely to be high users of fabric conditioner.

9.8 COMMENTARY

The paradox of this research was that there was detailed information available on many variables yet it was necessary to over simplify. This over-simplification could be the reason why relationships were not identified. The reason for the over simplification was partly the complexity of the data itself and partly that patterns were not identified prior to the design of the questionnaire. This meant that all the patterns had to be identified from the data.

In the Flora study possible usage strategies and the reasoning behind choice of usage strategy were identified in depth interviews before the questionnaire was designed. The questionnaire was then used to test whether these strategies did exist. In the present study depth interviews were mainly used to identify variables in isolation, so that problems, product beliefs, usage goals and the components of usage strategy were elicited separately and with no consideration of how these might interact. The depth interviews were carried out by the market research team who would be administering the questionnaire. They concentrated on identifying appropriate wording of statements for questionnaire design etc., rather than identifying relationships between concepts. It could be argued that if depth interviews had been used to identify usage strategies rather than just components of usage strategy the researchers would have encouraged the subjects to think along the lines of trade off strategies etc., when in fact the subjects had not thought like this before, but a carefully worded questionnaire could have been used to test the strategies existence after identification.

The problems of identifying patterns were shown in the identification of usage strategies. In the cream cleanser survey the usage situation 'Cleaning household surfaces' involved 11 surfaces and 12 products which could be used regularly, occasionally or not at all. The number of combinations possible was very large (3,132) and identifying patterns could be like seeking a needle in a hay stack.

As no respondent had exactly the same responses one would have difficulty deciding on the demarcation line between groups, for example; when did a pattern of 'Use washing up liquid and cream cleanser with some use of floor cleaner' become 'Use washing up liquid and floor cleaners with some use of cream cleanser'? A tabular analysis meant that there

must be criteria for assigning respondents to groups and did not allow for grey areas.

It had been hoped to use cluster analysis to identify patterns in the data, this is why it was thought that it would be possible to identify patterns in the data when the questionnaire was designed. Cluster analysis was not available on SPSS and a search for a package with the facility was begun but Gerald Goodhardt advised that cluster analyses had produced no usable results in the social sciences and that it was not suited to this data and, on consideration, I followed his advice.

As generalisable patterns of combinations of products for different tasks could not be identified groupings were based on either the use of one product or on the use of a group of products regardless of task. An important characteristic of the PRISM model is that it considers how products are used in combination and this simplification meant that this was lost. As use of single products was considered a lot of information was not used, for instance washing up liquid use was considered in isolation when in fact other products were used as well as washing up liquid and these would have contributed towards achieving goals and solving problems.

Another problem of measuring usage strategies when many possible combinations are possible is the difficulty of measuring behaviour without boring or confusing the respondent. This was shown in the fabric conditioner survey where a complex question on washing behaviour was not understood.

The commentary so far has assumed that generalisable patterns are there to be found if techniques were available. On the other hand there could be so many individual strategies that it will always be impossible to generalise. I would still support the PRISM belief that consumers make logical decisions in the combination of many variables to satisfy goals even if the complexity of variables means that every consumer has a different pattern.

CHAPTER TEN

THE INVESTIGATION OF THE PERCEIVED RISK AND
INFORMATION COMPONENTS OF THE MODEL.

THE INVESTIGATION OF THE PERCEIVED RISK AND INFORMATION COMPONENTS
OF THE MODEL

10.1 INTRODUCTION

The purpose of this investigation was to test the effectiveness of various perceived risk measures in predicting information requirements and if possible to find the best way of combining the components of perceived risk measures to predict information requirements.

The hypothesised relationships between the perceived risk and information components of the PRISM model are discussed in section 7.10. The hypotheses can be measured as

- 1) Openness to information will increase with the level of risk perceived.
- 2) Information need i.e. the type of information required, will depend upon the nature of the risk perceived.

Openness to information has been defined in section 7.8 and information need in section 7.9. Openness to information is measured by question 17 for the cream cleanser and question 18 for fabric conditioner.

The measures of perceived risk to be considered are described in section 7.11. The measures with their possible components can be summarised as follows:-

Buying Risk (subject product users only)	Perceived difference between alternative brands. The value of perceived differences in influencing brand choice. Satisfaction or dissatisfaction with usual brand.
Usage Risk	Problems with achieving goals. Importance of goals. Satisfaction with usual brands or beliefs about the product. Risk reduction beliefs. Non-Users Risk i.e. non users evaluation of factors which are likely or unlikely to make them modify their behaviour to the product.
Risk Y	Expectancy of negative outcome segmented by importance of goals.

Risk X Uncertainty of outcome segmented by importance
of goals.

Hypothesis I was tested using all the perceived risk measures. The tests are reported as follows:- Buying Risk, section 2; Usage Risk, section 3; Risk X and Risk Y, section 4.

The test of hypothesis 2 is reported in section 10.5.

Section 10.6 contains the summary and conclusions.

Before the association between openness to information and perceived risk was tested a test was carried out to find out if openness to information varied between users and non users of the subject products. If this was the case it might affect the results. No association between use of cream cleanser and fabric conditioner and openness to information on cream cleanser and fabric conditioner was found.

10.2 BUYING RISK AND OPENNESS TO INFORMATION

For a discussion of the conceptualisation and measurement of Buying Risk see section 7.11.

The separate components of Buying Risk were tested for their prediction of openness to information, before an attempt was made to decide on the best way of combining the components.

The difference perception component was measured in question 9a of the cream cleanser questionnaire and question 7a of the fabric conditioner questionnaire. Respondents perception of difference between brands was quite high. On average 56% of cream cleanser users perceived difference in at least one brand for the characteristics listed. Difference perception varied between 30% perceiving difference in 'Has a better colour' and 89% perceiving difference in 'Tends to clog around the cap'. On average 61% of fabric conditioner users perceived difference in at least one brand varying between 26% perceiving difference in 'better at making clothes easier to iron' and 95% perceiving difference in 'Is better at getting rid of the powders'. These results suggested that respondents did perceive difference between brands and that therefore it was worth going on to consider its effect in predicting openness to information.

The relationship was tested by comparing the mean number of characteristics for which difference was perceived for all subject product users and for users split into three groups according to their openness to information. The results are shown below in table 10.1. The total number of characteristics for which difference could be perceived was 16.

TABLE 10.1 - DIFFERENCE PERCEPTION BY OPENNESS TO INFORMATION - CREAM CLEANSER

<u>Groups</u>	<u>Mean number of criteria for which difference perceived</u>	<u>Number of respondents</u>
All cream cleanser users (valid responses)	9.8	27
'I am not interested at all in any information on cream cleansers' (Group 1)	11.4	11
'I am not really interested in any information but if I came across it I would look at it' (Group 2)	9.0	10
'I would quite like information on cream cleansers' (Group 3)	8.2	6

As can be seen there was no tendency for difference perception to increase with openness to information, in fact the tendency shown was in the opposite direction.

The next step was to weight the perceived differences by whether they were stated as influencing brand choice. This was measured in question 9b. The weighting procedure used was to include only perceived differences for those characteristics which were stated as influencing brand choice. The test was repeated using the new weighted measure. See table 10.2.

TABLE 10.2 - WEIGHTED DIFFERENCE PERCEPTION BY OPENNESS TO INFORMATION - CREAM CLEANSER

<u>Groups</u>	<u>Mean number of criteria for which difference perceived where that would influence choice.</u>	<u>Number of Respondents</u>
All cream cleanser users (valid responses)	7.4	26

TABLE 10.2 Cont'd

<u>Groups</u>	<u>Mean number of criteria for which difference perceived where that would influence choice.</u>	<u>Number of respondents</u>
Information Group 1	8.9	11
Information Group 2	5.8	10
Information Group 3	7.4	5

TABLE 10.3 - DIFFERENCE PERCEPTION BY OPENNESS TO INFORMATION - Fabric Conditioner

<u>Groups</u>	<u>Mean number of criteria for which difference perceived</u>	<u>Number of respondents</u>
All fabric conditioner users (valid reponses)	6.3	34
'I am not interested at all in any information on fabric conditioner' (Group 1)	5.9	13
'I am not really interested in any information but if I came across it I would look at it' (Group 2)	7.5	11
'I would quite like information on fabric conditioners' (Group 3)	5.4	10

TABLE 10.4 - WEIGHTED DIFFERENCE PERCEPTION BY OPENNESS TO INFORMATION - Fabric Conditioner

<u>Groups</u>	<u>Mean number of criteria for which difference perceived.</u>	<u>Number of respondents</u>
All fabric conditioner users (valid responses)	3.8	34
Information Group 1	2.5	13
Information Group 2	6.0	11
Information Group 3	3.0	10

There was no tendency for weighted difference perception to increase with openness to information.

The tests were repeated using the data from the fabric conditioner questionnaire. The results are shown in table 10.3 and table 10.4. The total number of characteristics for which difference could be perceived was 11.

Although those in the 'Would look if saw' group had higher difference perception than average, the group most open to information did not. The fabric conditioner tests supported the findings of the cream cleanser tests that openness to information did not increase with difference perception.

It had been intended to test various methods of weighting difference perception by influence on brand choice, but as the weighted and un-weighted measures showed no tendency to support the hypothesis it was decided that further methods at weighting would not be necessary.

Another hypothesised component of Buying Risk was subject product users' satisfaction or dissatisfaction with their usual brand(s). This was measured in question 10 of the cream cleanser survey where 14 criteria were used and question 9 of the fabric conditioner survey where 12 criteria were used. Dissatisfaction levels were low, on average 13% of cream cleanser users were dissatisfied or completely dissatisfied with their usual brand for the criteria listed. The highest percentage dissatisfied was for 'Not clogging around the cap' - 61%, followed by 'It's lack of grittiness' - 25%.

On average 13% of fabric conditioner users were dissatisfied or completely dissatisfied. The highest percentages dissatisfied were for 'Helping clothes stay clean' - 38% of users and 'Helping make clothes easier to iron' - 32%. The results suggested that dissatisfaction was low.

A measure of dissatisfaction with usual brand(s) was created by counting 1 for every response of dissatisfied and 2 for every response of completely dissatisfied.

The hypothesis of a positive relationship between dissatisfaction and openness to information, was tested by comparing mean dissatisfaction levels for each information group. Table 10.5 presents the results for cream cleanser.

TABLE 10.5 - DISSATISFACTION SCORE BY OPENNESS TO INFORMATION - Cream Cleanser

<u>Groups</u>	<u>Mean dissatisfaction score</u>	<u>Numer of respondents</u>
All cream cleanser users (valid responses)	2.1	28
Information Group 1	2.5	12
Information Group 2	1.5	10
Information Group 3	2.3	6

Where 1 = dissatisfied 2 = completely dissatisfied
and there are 15 criteria.

TABLE 10.6 - DISSATISFACTION SCORE BY OPENNESS TO INFORMATION - Fabric Conditioner

<u>Groups</u>	<u>Mean dissatisfaction score</u>	<u>Number of respondents</u>
All fabric conditioner users (valid responses)	1.9	34
Information Group 1	1.2	13
Information Group 2	3.0	11
Information Group 3	1.5	10

Where 1 = dissatisfied 2 = completely dissatisfied
and there are 13 criteria.

The cream cleanser results showed no tendency for openness to information to increase with dissatisfaction levels, this was confirmed by the fabric conditioner results.

Neither the perceived difference component or the dissatisfaction component had been shown to be of use in predicting openness to information. This suggested that combinations of the components would not predict openness to information so no work was done on finding combinations of the components. Results suggested that whatever the combination

of components 'Buying Risk' would not predict openness to information.

10.3 USAGE RISK AND OPENNESS TO INFORMATION

For a discussion of the conceptualisation and measurement of usage risk see section 7.12.

10.3.1 Problems and Importance

Two of the hypothesised components of Usage Risk were problems with achieving goals and importance of goals.

Importance and problems were measured for the same goals in questions 6 and 7 of the cream cleanser survey and questions 5 and 6 of the fabric conditioner survey. The proportion of respondents stating each goal as important and stating each goal as a problem is shown in table 10.7 for cream cleanser and table 10.8 for fabric conditioner. In the cream cleanser survey importance perception was high with an average of 82% of respondents stating each goal as important. Highest importance perception was for 'Not tainting the food after using the cleanser on the worktop' with 98% of respondents stating this as important. Lowest importance perception was 'Not doing a lot of rinsing' with 56% of respondents stating this as important. This goal was rated by much less respondents than any other, the next lowest response being 74% of respondents. As importance perception did not vary much over goals it might not be a good predictor variable. As the number giving 'Not important' responses was fairly consistent there was a possibility that the same respondents were answering 'Not important' each time. This would mean that respondents were not distinguishing between goals. However a study of individual responses showed that the respondents answering 'Not important' did vary. On the other hand about a quarter of respondents ranked all objectives as important see section 9 . This meant that their importance measure was not very sensitive to difference in importance perception between goals.

Problem perception was lower, on average 23% of respondents perceiving a problem; and had a wider range, from 8% perceiving a problem on 'Taking care of chrome' to 44% perceiving a problem on 'Not scratching the surface'.

TABLE 10.7 - CREAM CLEANSER - IMPORTANCE AND PROBLEM PERCEPTION

	Saying important %	saying a problem %	saying important & a prob. %
Avoiding taking the shine off new surfaces	88	28	28
Not doing a lot of rinsing	56	30	16
Not scratching the surface	90	44	42
Not tainting the food after using the cleaner on the worktop	98	12	10
Not leaving the surfaces dull and smeary	84	24	18
Keeping down the cost of cleaning by using only a few kinds of cleaners	88	30	28
Finding cleaners that are strong enough	80	26	22
Not having to use many different products for cleaning jobs	84	20	14
Avoiding cleaners which are too harsh	78	26	22
Taking care of stainless steel	74	18	18
Taking care of formica type surfaces	84	18	14
Taking care of enamel type surfaces	78	10	8
Keeping down the cost of cleaning by using products carefully	86	22	18
Taking care of chrome	<u>78</u>	<u>8</u>	<u>6</u>
Average	82	23	19

TABLE 10.8 - FABRIC CONDITIONER - IMPORTANCE AND PROBLEM PERCEPTION

	% Saying important	% Saying a problem	% Saying important & a prob.
Fabric not getting twisted or matted	86	28	28
Clothes and towels staying soft	88	38	36
Manmade items not crackling and clinging	72	32	30
Harsh powders or washing machine action not harming clothes and things	86	22	16
Being sure all the powder is rinsed out	94	32	32
Not having the cost of using several different washing products	74	26	18
The washing having a nice smell when its dried indoors	76	14	10
Items smelling pleasant when they're being washed or ironed	66	8	6
Not having to sort out the washing and wash different things separately	58	36	24
Average	78	26	22

The responses to the fabric conditioner questionnaire showed a similar pattern with average percentage of respondents expressing importance 78% varying between 58% and 88%. Average percentage of respondents expressing a problem was 26% ranging between 8% and 38%.

It had been hypothesised that problem perception would only be a risk component if the goal it related to was seen as important. So the number of goals for which 'risk' was expressed was the number of goals which were both important and a problem. The percentage of respondents expressing risk for each goal is shown in table 10.7 and table 10.8. In the cream cleanser questionnaire the highest 'risk' is 'Not scratching the surface' - 42%, followed by 'Avoiding taking the shine off new surfaces' and 'keeping down the cost of cleaning by only using a few cleaners' - 28%.

Two tests were carried out for association between 'risk' and openness to information. The first was on risk for each individual goal. For each goal the mean information requirements of those perceiving risk were compared to those perceiving importance but no problem and to those perceiving neither importance or a problem and also to the sample mean. There was no significant difference between groups mean information requirements for any goal. The mean information requirements were in fact lower than average in every case for the risk perceivers. It had been intended to use this information to suggest ways of weighting a total perceived risk measure but as no goals perceived risk was shown to contribute to predicting information requirements the idea of weighting was abandoned and a simple total measure was created. The total perceived risk was the number of statements for which risk was perceived.

In order to test whether total perceived risk was positively associated with openness to information mean perceived risk for each information group was compared with the sample mean. Mean number of goals 'Important but not a problem' and 'Neither a problem or important' were also calculated in order to assess the contribution of importance and problem perception to the prediction of openness to information. The results are shown in table 10.9 below.

TABLE 10.9 - MEAN PROBLEMS, IMPORTANCE AND 'PERCEIVED RISK' BY INFORMATION GROUP. (based on questions 6 and 7 with 14 goals included)

	<u>Goals important and a problem *</u>	<u>Goals important but not a problem</u>	<u>Goals Neither important nor a problem</u>
All respondents (49)	2.7	8.9	1.9
Information Group I (23)	3.1	8.1	2.0
Information Group 2 (16)	2.9	9.0	1.9
Information Group 3 (10)	1.4	10.6	1.4

* perceived risk

The results showed no evidence of a positive association between openness to information and the total perceived risk measure. The group most open to information had lower than average perceived risk.

The tests were repeated using the fabric conditioner data. No difference was found between risk perceivers' mean information requirements and sample mean when each goal was considered separately. The test of total perceived risk was carried out in the same way and results are shown in table 10.10.

TABLE 10.10 - FABRIC CONDITIONERS - MEAN PROBLEMS, IMPORTANCE AND 'PERCEIVED RISK' BY INFORMATION GROUP. (based on questions 5 and 6 with 9 goals included)

	<u>Goals important and a problem *</u>	<u>Goals important but not a problem</u>	<u>Goals neither important nor a problem</u>
All respondents (50)	2.0	5.0	1.6
Information Group I (20)	1.5	5.8	1.5
Information Group 2 (19)	2.7	4.3	1.7
Information Group 3 (11)	1.8	4.9	1.7

* perceived risk

The results showed no evidence of positive association between the perceived risk measure and openness to information. The cream cleanser results had suggested that there could be a positive association between importance perception and openness to information which seemed plausible as it might be those highly motivated towards cleaning who would be open to information, but the fabric conditioner results did not confirm this.

10.3.2 Beliefs about the Subject Product

It had been hypothesised that in order to express the specific usage risk of using the subject product within the usage strategy a measure of beliefs about the subject product should be used. The measure of subject product users' satisfaction with their usual brand was considered and also the measure of beliefs about the subject product in question 24 - cream cleanser and question 26 - fabric conditioner. The dissatisfaction measure had already been considered as a component of Buying Risk see section 10.2 and results had shown no positive association between dissatisfaction and information requirements.

The investigation of the effect of beliefs about the subject product on openness to information is discussed fully in section 10.5 where they form the basis of two other risk measures. Neither negative beliefs about the subject product nor uncertainty of beliefs about the subject product were positively associated with information requirements.

10.3.3 Non-Users' Risk

The measure used for Non-users' Risk (see section 7.11.3 for description of the component) is respondents' evaluation of the factors which are likely or unlikely to persuade them to modify their behaviour and to want to buy the subject product. These had been found to be a good way of measuring the non users' attitudes to using the subject product. The way that these should be combined in a usage risk measure was to be determined.

Non-users risk was measured by question 15 in the cream cleanser survey. The frequency table of responses (see table 10.11) shows that there is considerable variation in responses, from 4 out of 21 respondents likely to be persuaded to 16 out of 21 respondents likely to be persuaded. The criteria under which respondents were most likely to be persuaded were

TABLE 10.11 - CREAM CLEANSER - NON-USERS RISK RESPONSES 21 NON USERS
TO QUESTION 15

	Very Likely	Likely	Un- Likely	Very Un- Likely
A) If I had something specially dirty or greasy	1	6	10	4
B) If I had bought a new bath or sink	4	7	8	2
C) If I had bought a new cooker or something for the kitchen	2	7	9	3
D) If someone had told me about a cream cleanser they liked	1	10	8	2
E) If I wanted something specially clean and hygenic	0	4	11	6
F) If the cream cleanser was on special offer	3	11	2	5
G) If the price of my usual cleanser had gone up	2	4	9	6
H) If I thought the cream cleanser might go further	1	6	7	7
I) If I thought the cream cleanser might be easier to rinse	0	6	9	6
J) If I thought the cream cleanser was as good as other products and did most of the cleaning jobs in the house	0	16	3	2
K) If I thought the cream cleanser was as good as other products and did not scratch the surfaces	0	14	5	2
L) If I thought the cream cleanser was quick and more pleasant to use	0	10	8	3
M) If I thought the cream cleanser would give a nice shine after I've cleaned	0	10	8	3
N) If I thought the cream cleanser was more powerful than my usual cleaner	2	13	5	1
O) If I thought the cream cleanser needed less rubbing than my usual cleaner	0	6	7	8
Average	1.1	8,7	7.3	4

J, K and N which are all of the type 'I would want to buy cream cleanser if I thought it was as good as other products'. This suggest the main reason for not buying cream cleansers was that it was not thought to be as good as other products.

The variation in response suggested that respondents were distinguishing between the statements. As respondents did distinguish between statements it might be possible to identify groups of statements reflecting particular attitudes to using cream cleanser. Consideration of the statements suggested three distinct groupings. Statements A, B, C, E suggested fairly positive attitudes to using cream cleanser and that respondents would use it if they had a task for which it was thought suitable. Statements F, G, H suggested respondents were not buying for reasons of economy and that they would buy if cream cleanser was relatively cheaper. Statements I to P suggested that respondents had negative attitudes to cream cleanser and that they would have to lose these negative attitudes before they would consider purchase. Statement D was not obviously appropriate to any of these groupings.

To test whether these groupings did exist a correlation table was produced in which responses to every statement were correlated with responses to every other statement. A two way test of significance was carried out for each correlation. Correlations within groups were compared with correlations between all statements and with correlations between groups. Overall nearly every correlation was positive and no negative correlation was significant, 2/5 of all correlations were significant at the 95% level.

Within the group A, B, C, E 4 out of 6 of the correlations were significant at the 95% level.

Within the group F, G, H all correlations were significant at the 95% level.

Within the group I to P just over half the correlations were significant at the 95% level.

It was not expected that group A, B, C, E and group F, G, H would be mutually exclusive as housewives might not use cream cleanser because they didn't see it as appropriate to the tasks in hand and because of reasons of economy. It was expected that group A, B, C, E and groups I to P and

F, G, H would tend to be mutually exclusive because if respondents needed to be persuaded of cream cleanser's effectiveness it was not thought that they would be likely to use it if their circumstances changed or if it became more economical.

Between the groups A, B, C, E and F, G, H $2/5$ of correlations were significant the same was true for correlations between groups A, B, C, E and I to P. Between the groups F, G, H and I to P $1/5$ of correlations were significant.

The results showed that there did seem to be some within group similarity and there was a tendency for difference between groups F, G, H and I to P as expected but there was no tendency for difference between groups A, B, C, E and group I to P.

The fact that $2/5$ of correlations between statements were positive and significant at the 95% level (using a two-tailed test) and that it was not possible to produce conclusive evidence of distinct groups of statements that were mutually exclusive suggested that respondents did have a tendency to respond consistently over statements, in other words, that some respondents had a greater overall tendency to say they were likely to want to buy a cream cleanser.

The number of times each respondent responded 'Very likely' to 'Very unlikely' was considered and it was found that only one respondent gave the same response to all 14 statements. One third of respondents gave the same response to 10 or more statements. Respondents did seem to be distinguishing between statements to some extent but some did have a trend towards a particular response.

Non-users' risk has been described as the existence of doubts in a person's mind about whether an alternative product might be better. According to this definition it is the respondents who are most likely to be persuaded to want to buy a cream cleanser who are the risk perceivers. To test whether this measure of risk perception has a positive association with openness to information a non users' risk score was created where 'Very likely' scored 1, 'Likely' scored 2, 'Unlikely' scored 3 and 'Very unlikely' scored 4. Mean non users risk scores were calculated for each information group to test if this would distinguish between information groups. No evidence for a positive association was found.

10.3.4 Risk Reduction Beliefs

Risk reduction beliefs are defined as 'Ways in which people tell themselves that their usage strategy is a satisfactory solution to the problems faced in achieving a usage goal'. See section 7.11.3.

Risk reduction beliefs were thought to reduce risk perceived, thus reducing 'openness to information', but the way particular risk reduction beliefs acted was not known.

Risk reduction beliefs were to be measured in questions 13 for fabric conditioner and question 14 for cream cleanser. Only users of the subject product were asked the question.

There are many criticisms that can be made of the design of this question. Taking the fabric conditioner question for example (see table 10.12). The question was only asked to fabric conditioner users although it would have been useful to also look at non users' risk reduction beliefs - this could be justified on the grounds that it simplifies the questionnaire to cut out non users' beliefs. Although it may therefore be justified the third statement 'I know how to wash clothes properly so I don't need a fabric conditioner' seems to be addressed specifically to non users. The fourth statement 'I like fabric conditioner because it keeps things fluffy, soft and nice to touch' has nothing to do with risk reduction; it was probably inserted by the QED team. Statements 1,2 and 5 do not seem to be risk reduction beliefs according to the PRISM definition above. Brand loyalty and buying well known brands are behaviours which reduce risk according to perceived risk theory but they have nothing to do with usage strategy. This leaves only statements 6, 7 and 8 which can be taken as risk-reduction beliefs appropriate to users of fabric conditioner. Statements 6,7 and 8 would seem particularly appropriate to the usage group identified as 'low users of fabric conditioner' (see section 9.5) because these statements are all justifying using fabric conditioner for some washing tasks but not all. However a test showed that low users were no more likely than high users to express these beliefs.

Mean perceived risk scores were compared for those responding 'Agree strongly', 'Agree', 'Disagree', 'Disagree strongly' to each statement to test whether perceived risk did decrease with agreement with the risk

TABLE 10.12 - RISK REDUCTION BELIEFS RESPONSE PERCENTAGES. QUESTION

	13 Fabric Conditioners				
	Missing (Nonusers)	Agree Strongly	Agree	Dis- agree	Disagree Strongly
Once I've found a fabric conditioner I stick with it	3 2	26	18	20	.4
I trust fabric conditioner which have been around for a long time	3 2	14	44	10	-
I know how to wash clothes properly so I don't need a fabric conditioner	3 2	6	4	48	10
I like fabric conditioner because it keeps things fluffy, soft and nice to touch	3.2	0	46	2	-
I stick to well known brands	3.2	16	38	14	-
Fabric conditioner is too expensive to use in all my washing	3 2	4	20	36	8
There's no point using fabric conditioner on more things than I usually do because It wouldn't make any difference to them	3 2	-	14	42	12
I don't use fabric conditioner on certain items in case it damages them	3 2	-	6	46	16

reduction belief. In one out of three cases there was some evidence for a relationship, (see table 10.13).

TABLE 10.13 - MEAN NUMBER OF STATEMENTS A PROBLEM AND IMPORTANT

(Perceived risk)

Fabric conditioner is too expensive to use on all my washing:-

	Strongly Agree	Agree	Disagree	Strongly Disagree
Ø	2.0	3.1	2.3	0.5
*	(2)	(10)	(18)	(4)

Ø = Mean

* = Number of respondents

In fact any trend was for 'perceived risk' to increase with agreement with the 'risk reduction belief'. It can be argued that the statement could have many implications but it is literally a 'risk reduction belief' because it is justifying a usage strategy.

Any further analysis of risk reduction beliefs seemed pointless due to the problems of question design and the lack of guidelines on what the effect of these statements would be.

10.3.5 The Case of Low-Users of Fabric Conditioner

The underlying concept of usage risk is the confidence which the user has in her present usage strategy. In previous PRISM research the number of problems with achieving goals had been found to be a good indicator of confidence in usage strategy. It therefore follows that the group following the strategy 'low use of fabric conditioner' who had been found to express more problems than the average see section 9.5 and table 9.15, should have high perceived usage risk and should therefore be more open to information. This was tested. Table 10.18 compares mean problems expressed with mean openness to information for the three fabric conditioner use strategies identified in Chapter 9.

TABLE 10.18 - COMPARISON OF PROBLEM PERCEPTION AND OPENNESS TO INFORMATION BY USAGE STRATEGY - Fabric Conditioner

<u>Usage Strategy (machine wash)</u>	<u>Mean % of group expressing a problem</u>	<u>Mean openness to information on fabric conditioner</u>
High use of fabric conditioner (12)	13.8	2.1
Low use of fabric conditioner (13)	35.9	1.5
Do not use fabric conditioner (22)	24.1	1.8

Where openness to information is: 1 = Not interested in any information
 2 = Not really interested but would look if saw
 3 = Would quite like information

The results are the opposite of what would be expected under PRISM theory. The low users who are more likely to express problems also have the lowest mean openness to information whereas the high users who are least likely to express problems have the highest mean openness to information.

10.3.6 Conclusions - Usage Risk

None of the hypothesised components of usage risk were shown to be positively associated with openness to information. Results suggested that no combination of the components would be associated with openness to information so no further work was done on methods of combining the components.

10.4 RISK X AND RISK Y

For a discussion of the measures Risk X and Risk Y see section 7.11.4.

Risk X the uncertainty of outcome measure and Risk Y the expectancy of negative outcome of loss measure were to be based on question 24 - cream cleanser and question 26 - fabric conditioner. Responses to these questions are summarised in tables 10.14 and 10.15. The negative state-

TABLE 10.14 - BELIEFS ABOUT CREAM CLEANSER - PERCENTAGE OF RESPONDENTS

	<u>Missing (non users)</u>	<u>Def- initely True</u>	<u>Pro- bably True</u>	<u>Pro- bably Untrue</u>	<u>Definitely Untrue</u>
Cream cleansers do not scratch surfaces	2	20	66	12	-
Cream cleansers rinse away easily	2	16	58	24	-
Cream cleansers are the product to use if you want to keep things looking as good as new	2	12	46	38	2
(cream cleansers are more expensive than scouring powders)	2	54	30	10	4
(cream cleansers are not as good as scouring powders for getting most things off surfaces)	2	20	30	38	10
cream cleansers leave everything shiny	2	18	52	26	2
cream cleansers are more pleasant to use	4	32	44	16	4
cream cleansers are effective in getting rid of germs	4	12	56	22	6
cream cleansers leave a pleasant smell	2	24	64	8	-
(Cream cleansers may taint food if used on worktops)	4	4	26	54	12
cream cleansers are convenient to use for lots of different jobs	2	22	48	24	4
(cream cleansers may taint food if used in pots and pans)	6	2	32	46	14

Negative statements are shown in brackets

TABLE 10.15 - BELIEFS ABOUT FABRIC CONDITIONER - PERCENTAGE OF RESPONDENTS

	<u>Missing</u>	<u>Def- initely True</u>	<u>Pro- bably True</u>	<u>Pro- bably Untrue</u>	<u>Def- initely Untrue</u>
Fabric conditioners keep woollens soft	6	54	40	-	-
Fabric conditioners keep all washing soft	4	42	40	10	-
Fabric conditioners make clothes nice to feel and wear	6	38	50	6	-
Fabric conditioners keep clothes looking new	10	10	42	28	4
Fabric conditioners leave a nice fresh smell in washing	6	58	30	6	6
Fabric conditioners stop man-made fibre crackling and clinging	6	24	32	30	8
Fabric conditioners make ironing easier	6	16	24	40	14
(Fabric conditioners add too much to the cost of the wash)	6	26	28	24	16

Negative statements are shown in brackets

ments are indicated by enclosing brackets.

It was found that users of the subject product had lower expectancy of negative outcome scores and lower uncertainty scores than non users. However as it was known that openness to information did not vary with product use it was not thought necessary to take into account the effect of use or non-use of the subject product.

10.4.1 Risk X - Uncertainty of Outcome

A measure of uncertainty about beliefs on cream cleanser was created by counting the number of statements in question 24 to which respondents replied 'probably true' or 'probably untrue' over a total of the 12 statements. The respondents' uncertainty score ranged from 2 to 12 with a mean of 8.9. The mean uncertainty score was then calculated for each information group. There was no difference between the group means.

The weighting of the uncertainty measure by importance perception has been discussed in section 7.11. This was done by splitting respondents into high importance perceivers and low importance perceivers. The high importance perceivers were those who stated all goals as important or all goals except not doing a lot of rinsing. The method of weighting was chosen arbitrarily - uncertainty scores were multiplied by 2 if respondents were in the high importance group. The average weighted uncertainty scores were calculated for each information group. Again there was no difference between the group means.

The exercise was repeated using the fabric conditioner data. In this case there was a difference between the mean unweighted and weighted uncertainty scores for the different groups but it was the 'I am not really interested in any information but if I came across it I would look at it' group which had the highest uncertainty score. See table 10.16 below. The results did not support the hypothesis that openness to information would increase with uncertainty.

TABLE 10.16 - UNCERTAINTY SCORE BY OPENNESS TO INFORMATION - Fabric Conditioner.

<u>Groups</u>	<u>Mean Unweighted Uncertainty Score</u>	<u>Number of respondents</u>
All respondents	4.6	44
Information Group 1	3.7	18
Information Group 2	5.8	16
Information Group 3	4.3	10

F test for difference between group means - Significance = 0.04

10.4.2 Risk Y - Expectancy of Negative Outcome

A measure of negative belief about cream cleanser was created by counting the number of negative beliefs expressed in response to statements in question 24. One was added to the score for each response of 'Probably true' or 'Definitely true' to a negative statement or of 'Probably Untrue' or 'Definitely Untrue' to a positive statement. The respondents expectancy of loss scores ranged from 0 to 9 with a mean of 3.9. It will be noted that from table 10.14 that the most popular negative belief was that cream cleansers were more expensive than scouring powders. This is not a belief about cream cleansers performance so there are some reservations about its inclusion.

The expectancy of loss scores were weighted by importance perception in the same way as the uncertainty scores and the mean weighted and unweighted expectancy of loss scores for each information group were calculated.

The 'would quite like information group' did not have higher mean expectancy of loss scores in fact expectancy of loss scores were lower than average but not significantly different. See table 10.17 below.

TABLE 10.17 - WEIGHTED EXPECTANCY OF LOSS SCORE BY OPENNESS TO INFORMATION - Cream Cleanser

<u>Groups</u>	<u>Mean weighted expectancy of loss score</u>	<u>Number of respondents</u>
All respondents	5.7	45
Information Group I	6.4	20
Information Group 2	5.0	15
Information Group 3	5.4	10

The tests were repeated on the fabric conditioner data. Again expectancy of loss scores for the 'Would quite like information group' were lower than average rather than higher than average as predicted.

10.4.3 Conclusions

There was no evidence that there was a positive association between openness to information and expectancy of loss weighted or unweighted by importance perception.

10.5 PERCEIVED RISK AND INFORMATION NEED

The definition of Information need is given in section 7.9. Questions measuring information need are questions 18 to 21 of the cream cleanser survey and questions 19 to 23 in the fabric conditioner questionnaire.

It was intended to use these responses to test whether there was an association between particular types of risk perceived and the type of information needed e.g. were those perceiving risk on scratching surfaces more likely to want information on whether cream cleansers scratched surfaces? Were those who perceived risk on fabric conditioners not softening clothes more likely to want information on whether fabric conditioners worked?

It turned out that there were few responses to these questions. For example in the cream cleanser survey twenty respondents had answered that they were not interested in any information in question 17 and so were filtered out, another five respondents did not answer the questions, presumably due to interviewer error, leaving 25 respondents who answered the questions. Of these only a few, average 3, stated that

they wanted a particular type of information.

Attempts were made to compare both perceived risk as measured by goal important and a problem and measured by non users' risk with types of information required, however so few respondents came into both the information category and the risk category that it was impossible to make a judgement. One finding was the opposite from predicted - although 42% of the whole sample perceived risk on scratching surfaces - it was found that none of the four who responded that they needed information on possible damage to surfaces by cream cleanser perceived risk for that goal. Thus the slight evidence there was, was negative.

Further investigation was abandoned. The questions were not suited to testing the hypothesis. In order to test the hypothesis questions on type of information required should have been specifically related to the types of risk that were measured. The wide ranging, open-ended questions should have been restricted to the depth interviews and fewer, more specific information needs should have been measured in the questionnaire.

10.6 SUMMARY

The hypothesis that 'Openness to information will increase with the level of risk perceived' was tested for two PRISM concepts of perceived risk 'Usage Risk' and 'Buying Risk' and for two additional concepts Risk X and Risk Y.

Usage Risk and Buying Risk were made up of several components and the way these components should be combined was not known. The effect of the components on openness to information was tested.

None of the hypothesised components of Buying Risk were shown to be positively associated with openness to information. Evidence was so conclusive that it seemed pointless to combine the components in an overall measure. Of the components of Usage Risk, risk reduction beliefs could not be used due to problems of questionnaire design, none of the other components were shown to be positively associated with openness to information, again attempts at combining the components seemed pointless.

Neither of the additional measures of risk, Risk X and Risk Y predicted openness to information.

The hypothesis that 'Information need will depend upon the nature of the risk perceived' could not be successfully tested due to problems of questionnaire design.

10.7 COMMENTARY

One explanation of the negative results could be that the real concepts were not measured successfully another explanation could be that the relationship between the concepts or the concepts themselves did not exist in the situations studied.

I favour the second explanation. There were measurement problems in the study, for instance the problems experienced are measured very differently from the way in which they were measured in the Flora questionnaire. The questions measuring problems in the Flora questionnaire is given on the following page. The difference in questions may mean that they have measured different things. The problems with measurement of risk reduction beliefs have been mentioned. There was also the problem that importance perception did not vary much over goals in the question used for the perceived risk measure. However although there were some cases where measurement problems played a part I do not think that the overall lack of association between openness to information and the risk measures can be explained by this.

One plausible explanation for why the Flora results would not be generalisable to the present studies is that risk may only become an influential factor in a decision making situation when the system is in disequilibrium i.e. where there is some reason for set patterns to be broken. The literature review has shown that much research on perceived risk has either studied the situation where brand and store names are not known or the situation where a new brand is introduced to the market thus enforcing a situation where the subject cannot use her set decision patterns. The Sheth and Venkatesan (1968) study found that in an experimental situation where uncertainty was introduced information-seeking and prepurchase deliberation were initially high but declined over time whereas repeat purchasing increased suggesting that it is when some new situation arises to introduce uncertainty that information seeking takes place and that over time decision making becomes programmed and routinised.

It can be argued that the situation in which the Flora survey took place was one of disequilibrium. Information suggesting that butter was bad for the health vis a vis polyunsaturated margarine had just become widely known and consumers were reassessing their usage strategies. The new drink survey (Kingston 1978), in which usage risk measures were developed, also studied a situation of disequilibrium because as the drink to be considered was new to the market, consumers could not use set decision making patterns. On the other hand the cream-cleanser survey covered the market for household cleaners in which little change had been taking place, all the products in the study had been on the market for many years and no new information about the products had become recently available so it would be much more likely that the decision making was routinised. In the fabric conditioner case consumers may or may not have established set patterns of decision making to this product which was relatively new to the market. So an explanation of the negative results is that openness to information as a response to perceived risk is only applicable to a situation in which change is taking place and that it was not found in the present studies because decision making had become routinised.

Another explanation is that the findings of the Flora study were dominated by the perceived risk that butter might be bad for health and that if the health risks were taken out of the survey the relationships would not be proven. The possible consequences anticipated by health risks are quite severe whereas in the fabric conditioner survey the most commonly expressed risk is 'Keeping clothes and towels soft' these risks are in very different leagues. The question used to measure usage risk in the Flora survey is shown on the next page and the correlations of the risk measure with openness to information are shown in table 10.18 below. The risk measure is based on the rating 'extremely likely' to 'very likely' with 'extremely likely' the highest risk. All the risks measured are concerned with health except the money worry. The relationship between risk and openness to information was only significant for the health risks, 'Non users' risk was also very health based; reasons for change were either money, taste or health and approximately 70% of all non users' risks expressed were health risks. The relationship between type of risk perceived and information need was also based on health risks.

FIGURE 10.1 - FLORA SURVEY, QUESTION MEASURING PERCEIVED RISK

Q15a. People have mentioned various problems in connection with choosing butter and margarine for the family. I am going to read out some of them. Would you tell me for each how likely it is for you? and how certain you are about it. You can tell me from this card.

	EL	QL	DK	QUL	VUL	EC	QC	DK	QU	VU
I get worried about making sure the children get the right things from dairy products and margarines				✓			✓			
I get worried about making sure that my husband's diet doesn't give him heart trouble				✓			✓			
I get worried about making the housekeeping money go round, and may have to cut out the more expensive butters and margarines				✓			✓			
I get worried about the family's weight, as they eat too much butter and margarine					✓	✓				
I get worried about giving Flora to the children					✓	✓				
I get worried about not having enough information to help me decide the rights and wrongs of the dairy fats issue					✓	✓				
I get worried about how much dairy fats and products I ought to cut out					✓	✓				

Q15b. Do you have any other problems?

NO

Q15c. Which is the problem you most want to have information on?

NO

The next most? _____

The next most? _____

The fact that the relationships found in the Flora survey were all based on health risks which could have very serious consequences suggests that the reason no similar relationships were found in the cream-cleanser and fabric conditioner surveys were because the risks there identified had relatively trivial consequences. The results of the Flora study were not generalisable because the situation studied was unusual. This seems the most likely explanation.

TABLE 10.18b- RELATIONSHIP OF OPENNESS TO INFORMATION WITH PERCEIVED RISK - Flora Study

Pearson Correlation Coefficients

<u>Perceived Risk Dimensions</u>	<u>Openness to Information</u>	
Nutrition from fats for children	.47	at .1% level
Husband's diet and heart trouble	.38	at .1% "
Money and expensive fats	.04	
Family weight and fat	.31	at .8% "
Giving Flora to children worry	.17	
Need to know more on issue	.46	at .1% "
How much fats to cut out	.45	at .1% "

An attempt was also made to produce and test risk measures which were similar to risk measures used by other sources i.e. uncertainty of outcome and importance of goals, and expectancy of negative outcome and importance of goals. Neither of these did predict openness to information. As pointed out in the literature review there is little evidence for the relationship between risk and openness to information so the findings here are not at variance with previous findings, another problem is that as the questions were not specifically designed to measure such risk constructs they may not be good measures of them.

SECTION THREE - CONCLUSIONS

CHAPTER ELEVEN

CONCLUSIONS

CHAPTER 11. CONCLUSIONS

The conclusions which may be of future value are given below.

The first seven subheadings cover conclusions drawn from the literature reviews, the rest cover conclusions from the research investigation.

11.1 THE FAILINGS OF PERCEIVED RISK RESEARCH

A literature review of perceived risk research (see section 6.12.1. and 6.12.2.) has shown that, although perceived risk research began with a clearly stated theory and conceptualisation of consumer perceived risk, since then the development of perceived risk theory has been far from satisfactory.

Perceived risk has suffered from too many one off research projects rather than programmatic research. Researchers have almost always proposed their own measures of perceived risk rather than testing existing measures and new measures have rarely been validated. Most research projects have been 'exploratory' and have used students as subjects but the initial project has not been followed up by tests on representative samples of the population. Due to these reasons it is impossible to generalise from the research results available.

11.2 THE RELATIONSHIP BETWEEN PERCEIVED RISK AND INFORMATION HANDLING IS "A MYTH OF CONSUMER BEHAVIOUR"

In considering the literature on perceived risk and information handling it has been shown that there is little conclusive evidence for the relationship between consumer perceived risk and information handling, what information there is is from studies of word of mouth communications only. (See sections 6.12.1. and 6.12.2.)

If consumers do seek information evidence suggests that high risk perceivers do not seek a greater quantity of information than low risk perceivers but may spend more time in prepurchase deliberation. Research has shown that information seeking is affected by other factors such as repeat purchasing behaviour and in considering the effect of perceived risk on information seeking these factors must be identified and allowed for.

The relationship between consumer perceived risk and information handling has become one of the "myths of consumer behaviour". It has such appealing face validity and it is so often stated that many sources take it as proven. This is not to say that the relationship has been disproved rather that there has not been enough quality, programmatic research to prove or disprove the relationship.

11.3 SUGGESTIONS FOR IMPROVEMENT OF PERCEIVED RISK RESEARCH

It has been argued that future research on consumer perceived risk should be firmly based on existing theory and that existing measures of perceived risk should be tested using tests of validity and reliability in order to identify the best measures of the concept. Once the test measures have been identified they should be improved so that they can be used in market research and so that they can take account of such factors as changes over time.

11.4 CRITERIA FOR DISTINGUISHING BETWEEN PERCEIVED RISK MEASURES

This thesis has contributed to the understanding of perceived risk by showing ways of differentiating between the diverse approaches to perceived risk.

Most researchers have proposed two components of perceived risk, one component is either perceived importance of positive consequences of purchase or perceived severity of negative consequences of purchase. The second, a chance component, is either uncertainty of outcome or a probability of negative outcome. The uncertainty component was proposed by the Harvard research team who formulated perceived risk theory. This thesis has shown that the probability component was used in some cases because researchers have misinterpreted the initial conceptualisation and in some cases because those using probability were considering the perceived risk of buying one particular brand whereas the Harvard researchers were considering choice between a number of brands of a product (see section 6.11.3). This thesis has argued that it is the uncertainty component which is relevant to the study of information handling because uncertainty implies lack of information whereas probability implies perfect knowledge of the odds.

Attention has been drawn to the distinction between inherent and handled risk as identified by Bettman (see section 6.11.2). This thesis has argued that although inherent risk may be useful in testing theory the handled risk situation must be considered before perceived risk theory can be applied to the real world.

The thesis has shown that most perceived risk research has considered one point in time, the few studies involving dynamic research methods have been reported in some detail (see section 6.10) as it is considered that dynamic methods are particularly applicable to perceived risk and information handling and as commentators on consumer behaviour research increasingly favour dynamic research methods (e.g. Jacoby)

11.5 THE FAILINGS OF PERCEIVED RISK RESEARCH ARE COMMON TO MUCH CONSUMER BEHAVIOUR RESEARCH

Many of the criticisms of perceived risk research are applicable to consumer behaviour research in general (see Jacoby, as summarised in Appendix II). In particular researchers can be criticised for their individualistic approach, they seem more interested in developing their own personal measures than testing or developing someone else's work. Could it be that one exploratory study may come up with some interesting results to publish whereas rigorous testing and retesting may eliminate easy answers? Another reason may be that social science research is often carried out in isolation whereas in the physical sciences research teams are bigger and more well established.

11.6 CONSUMER BEHAVIOUR RESEARCH SHOULD PAY MORE ATTENTION TO PRODUCT USE DECISIONS

A review of the literature concerning the decision stage which consumer behaviour models consider has shown that almost all models consider only the brand purchase decision and PRISM is rare in considering the decision between products and relating this to the situation in which products are used. Commercial market researchers devote much time and resources to considering the situation in which the product is used which suggests that this could also be of value to consumer behaviour studies.

11.7 AN OVERVIEW OF INFORMATION PROCESSING

Information processing research unlike risk research has benefited from a number of systematic programmes of research e.g. behavioural process research and decision net research. However there is little literature on how these research areas fit into the whole field of information processing which a) has led to some confusion in defining this field, b) meant that individual research areas have ignored the effect of variables covered in other areas. As a contribution to solving a) the different areas of research have been related to an overall structure and attention has been drawn to the contribution of Bettman to solving b).

11.8 RESEARCH BACKGROUND RELEVANT TO THE SUMMARY

Rather than impose frameworks from outside, the PRISM research attempted to model consumers' own frameworks of behaviour using a depth study of consumers' reports of their experience. A study was carried out of the use of butter and margarine with the aim of understanding the effect of public relations information on consumers' decision making. (Flora study). Insights gained from depth interviews were tested using a questionnaire survey and various concepts and relationships were identified.

It was thought that a depth study of a market could reveal some macrostructures which would be generalisable and that differences between markets could be modelled by identifying different microstructures for each market. Having identified possible macrostructures in the Flora study the researchers set out to test these on two other situations. The microstructure components of the hypothesised macrostructures were identified using desk research and depth interviews. Using this information questionnaires were designed to test the model.

11.9 NONE OF THE HYPOTHESES TO BE TESTED IN THIS RESEARCH PROJECT WERE SUPPORTED

The current research project analysed the results of these questionnaires, concentrating on the usage strategy and perceived risk and information handling sections of the model. The results of the "cream cleanser survey" were tested first and then an analysis of the "fabric conditioner survey" was used to test if the results were repeated.

None of the hypotheses forming the macrostructure of the model were supported. The sample numbers were low (50) but the trend of the results did not suggest that the hypotheses would have been supported had the sample size been increased.

11.10 THE PERCEIVED RISK HYPOTHESES WERE NOT GENERALISABLE TO THE SITUATION STUDIED

Does this mean that the macrostructures developed in the previous survey could not be applied to the two situations here studied? It has been argued that this is the case for the perceived risk hypotheses.

The Flora study was of a situation where change was taking place and where consumers were aware of particular health risks, the cream-cleanser and fabric conditioner studies were of relatively static situations where health risks were minimal. Due to this the relationship between perceived risk and information handling found in the Flora study did not apply to the follow up studies.

11.11 USAGE STRATEGIES COULD NOT BE IDENTIFIED BUT MAY EXIST

Regarding the usage strategy section it has been argued that the concepts and relationships may exist but could not be identified. The usage strategy hypotheses state that individuals combine products to carry out tasks in order to satisfy usage goals depending on their beliefs about the capabilities of the products involved. Particular problems will be associated with particular usage strategies.

The components of usage strategy were identified for the situations of "Cleaning household surfaces" and "Doing the household washing". The possible number of tasks and products involved was large and thousands of usage strategy combinations were possible. The large number of responses possible contributed to the misunderstanding of the question measuring usage strategy in the fabric conditioner questionnaire so that most answers were unusable. The cream cleanser responses were usable but it was not possible to identify generalisable patterns of product use. Because of these problems simplified measures of product use had to be used. It has been argued that the negative results were because the simplified usage strategies used did not represent the real patterns. It has also been suggested that the patterns may be specific to individuals and not

generalisable to groups. This explanation was favoured over the explanation that the macrostructures did not exist a) because the usage strategy hypotheses have appealing face validity b) because when individual response patterns were considered they appeared to be logical and to be consistent with goals as hypothesised but each individual's pattern was different.

11.12 RECONCILING IDIOGRAPHIC MODELLING AND GENERALISABILITY

This research project illustrates a common problem of scientific research - that of obtaining the advantages of idiographic modelling and also being able to produce generalisable and useful results.

This study has not given support to the use of idiographic modelling to explain the effect of public relations information. However it may be that researchers attempted to generalise too soon, thus losing the benefits they were gaining from idiographic modelling. It might have been better to continue the policy of observing consumers' own structures over several situations before attempting to generalise. Rather than using depth interviews to identify the components of structures hypothesised for the first study I would have used the depth interviews to identify structures independently of other studies. For example instead of only considering the influence of perceived risk on openness to information I would have asked "What influences openness to information in this situation?" The results of three independent enquiries into three different situations could then be compared to identify the structures which were generalisable if these existed.

11.13 BENEFITS MAY ARISE FROM DIFFERENTIATING BETWEEN TYPES OF MARKET

It has been argued that the perceived risk findings of the Flora survey were not generalisable to two other markets for consumer non durables. These findings may be useful to the understanding of the effect of public relations information it is possible to identify why we cannot generalise so widely and to distinguish between different types of market within which one can generalise. The findings of the Flora survey may hold true for other markets where health risks are perceived e.g. artificial sweeteners, vitamin tablets, other high cholesterol foods.

In markets where these risks are not perceived e.g. cream cleanser, fabric conditioner there must be other factors affecting openness to information. Further research could identify whether we can identify types of market within which we can generalise.

11.14 PRISM RESEARCH WAS TOO AMBITIOUS

Another reason for the problems with the present project is thought to be that the research attempted to do too much at once. The original brief of the PRISM research was to produce a model that explained the influence of public relations information on purchase decisions. This is a comparable task to explaining the influence of advertising. In a paper evaluating the literature on "How Advertising Works" Hugh Murray (1979) provides evidence for his claim that mathematical and hierarchical models of advertising have not been proved. Given that so many attempts to explain the effect of advertising have been unsuccessful it would be very unlikely that a research project with limited resources would be able to solve that problem for public relations.

In an attempt to produce a working model the PRISM researchers attempted to develop the whole model at once. In order to test the whole model some concepts were introduced that were based on speculation and not on observation e.g. Buying Risk. The questionnaire in the present study covered almost every aspect of the model but it was not able to cover each component in sufficient depth e.g. Usage Beliefs. It would have been better to concentrate on developing one aspect of the model at a time.

11.15 THE INFLUENCE OF COMMERCIAL SPONSORS

This leads onto a consideration of the role of sponsors in academic consumer behaviour research. PRISM research was sponsored at different times by two commercial firms Burston Marstellar and Lever Brothers. The advantages of this were that needed funds were provided and that research could be based on Lever Brothers' market information and market research resources. It could also be argued that commercial sponsorship meant that the academic researchers addressed problems relevant to the real world. However the need to provide results that would be immediately relevant led to the attempt to solve a very big problem at one go rather than to

concentrate on solving one aspect of the problem. Also the need to show immediate results meant that an attempt was made to develop the whole model at once. Given the primitive state of consumer behaviour research as shown in the review of perceived risk I would argue that it is necessary to finish laying the foundations of the science before applying theory to practice.

11.16 PROBLEMS AND BENEFITS OF USING A MARKET-RESEARCH FIRM

The PRISM research provides valuable experience of the use of a market research firm in commercial market research. The review of perceived risk has shown that a failing of much research is that it uses students as subjects and that measures are ambiguous and difficult to understand and take a long time to administer (6.11.5). The market research team used their experience to produce simple, commonly used phrases for measures and had access to a more representative sample of the population. However the PRISM research highlighted some of the problems of the approach. It has been shown that sometimes the market research team failed to realise the importance of sticking exactly to the concept in the hypotheses e.g. risk reduction beliefs and that they concentrated more on using depth interviews for correct phrasing of measures rather than to gain understanding of the concepts and relationships.

Also the market research team did not have as much commitment to the research as they were not directly involved, for instance there were some inconsistencies in the responses which were not identified. These problems might be solved by more interchange between academics and commercial researchers and no doubt some of these problems would be ironed out if the method was used more often.

CHAPTER TWELVE

SUGGESTIONS FOR FUTURE RESEARCH

SUGGESTIONS FOR FUTURE RESEARCH

1. The review of perceived risk has shown that the relationship between consumer perceived risk and information handling has never been proved. Perceived risk theory would be greatly strengthened if a conclusive test of the relationship was carried out.

The hypothesis to be tested should be based on the theory proposed by the Harvard researchers viz 'the amount and nature of perceived risk will define consumer information needs, and consumers will seek out sources, types and amounts of information that seem most likely to satisfy their particular information needs'. (Cox 1967b)

A previously used measure of perceived risk should be used, for example Cunningham's measure of perceived risk (Cunningham 1967) as improved by Bettman (1973). A representative sample of the population should be studied and tests for cross validity and test-retest reliability should be carried out. The survey should cover a number of products with varying levels of perceived risk.

Another approach to testing the hypothesis would be to use the dynamic research method developed by Sheth & Venkatesan (1968). This could be improved if instead of using self-report of pre-purchase and information seeking an information board approach as used by Jacoby et al (see section 5.8) was used to observe these variables.

The PRISM model should be developed by research projects concentrating on one aspect of the model at a time. Needed areas of research are described below.

2. It is suggested in 11.9 that the perceived risk hypotheses were not generalisable to the present studies but might be generalisable to situations involving other products with perceived health risks. This could be tested by a study similar to the Flora study in another area where health risks may be perceived. The study could also be used to identify preferred and expected information sources in a risky situation.

3. It is suggested in 11.10 that we may be able to identify other determinants of openness to information in the cream cleanser and fabric

conditioner surveys. This could be tested by carrying out depth interviews followed by questionnaire survey to identify these factors. Comparison of results from this and the above survey would suggest whether we could identify similar situations within which we could generalise.

4. It has been suggested that the failure to identify usage strategy groupings was because there were so many possible combinations of variables that patterns were not identifiable. If this is the problem it could be solved by studying a situation which involved a smaller number of product and task variables. It would also be helpful to ascertain in in depth interviews what usage strategies might exist (as was done in the Flora survey). The existence of the usage strategies could then be tested in a questionnaire survey. Questions should be phrased so as not to suggest these strategies to the respondents.

APPENDIX ONE - STATEMENT OF THE ADVANCED STUDIES UNDERTAKEN IN
CONNECTION WITH THE PROGRAMME OF RESEARCH

The advanced studies undertaken included:-

Attendance of the following courses in the Business Studies and International Marketing degree courses at Thames Polytechnic:-

'Marketing'	April 1980 to April 1981
'Market Research'	April 1980 to April 1981
'Consumer Behaviour and Advertising'	October 1980 to June 1981

Attendance at the 'Research Training and Exchange Workshop'
Organised by the Regional Management Centres' Association.

Various conferences organised by the Study Group on Computers in
Survey Analysis.

APPENDIX II

Jacoby's Criteria for Good Consumer Research from 'Consumer Research: A State of the Art Review'

Theory

According to Jacoby consumer research is rarely based on well worked out theory. Researchers keenly put forward new theories, usually without any data to support them ('the theory of the month club'). However researchers are less likely to stick with a theory so that it can become a firm foundation for future work.

A theory must be explicitly stated so that hypotheses can be based on it and so operational measures of concepts can be devised and justified. But, according to Jacoby, concepts are often measured before the theory on which they purport to be based has been explicitly stated. This leads to two further tendencies criticised; that of changing the concepts in the course of the research to fit the data rather than sticking to stated hypotheses and that of producing many definitions of core concepts, almost one per paper, without showing that these measures of concepts satisfy standard measurement criteria.

To solve some of the problems mentioned above Jacoby calls for an increase in programmatic research. What is needed is 'five or more separate investigations in systematic and sequentially integrated fashion designed to provide incremental knowledge regarding a single issue'.

Procedures and Methods

Another of Jacoby's criticisms is of the methods used to measure the concept, he mentions, 'the slavish reliance on verbal reports'. What subjects say they have done rather than what they do do. Using such reports assumes that respondents can remember accurately, that they are not influenced by the questions and that they interpret the questions in the same way as the researcher. Furthermore complex variables such as brand loyalty are often measured with one question. Jacoby criticises research methods for being static when measuring a dynamic process such as information processing.

Jacoby calls for research which incorporates measures of a variety of dependent variables and which explores the combined and perhaps interacting impact of a variety of interdependent variables. He argues that as we live in a complex, multivariate world studying the effect of one or two variables in isolation would seem to be relatively artificial and inconsequential.

Jacoby criticises the use of single indicants to measure core concepts such as opinion leadership, he compares it to the folly of measuring intelligence with one question.

Validity

As his criticisms show, due to problems of conceptualisation and measurement technique it is quite unlikely that a measure proposed by a researcher will be valid. However few researchers test the validity of their measures. There are many definitions of core concepts and work on identifying the good measures and weeding out the poor ones is desperately needed.

Jacoby lays down various criteria for testing a measure. These include that the measure should have predictive validity i.e. it should correlate as predicted with other variables. The variable should have construct validity i.e. there must be an explicit conceptual statement of the phenomena and the measure must be related to this. It should have cross validity; this is a type of predictive validity which requires that the predictor composite be tested on a separate independent sample from the same population. It should have convergent validity i.e. different measures of the same concept should yield the same results and yield the same variables. This is especially when an attempt is made to compare findings across studies, for example one cannot assume that a variable related to one measure of brand loyalty will be related to another measure of brand loyalty until that has been tested.

Finally Jacoby makes a plea for more attention to test-retest reliability. This is where a test is repeated after a short interval to see if the same results are obtained. This is very important when recall data are being used, Young found that repeat tests had the same results as the initial test in only 50% of the cases.

Jacoby writes that some research lacks validity because measures are based on a series of untested and sometimes unverifiable assumptions.

Statistics

Jacoby criticises the indiscriminate use of high-powered techniques without sufficient specification of relationships to be found and appropriate techniques to identify them. He criticises the use of high powered statistics on very crude, inaccurate data. He argues that researchers should improve their methodology and the quality of their measures before using high powered techniques.

Summary

Jacoby argues that consumer research should:-

- a) Be based on explicitly stated theory.
- b) Put more effort into testing existing theory rather than developing new theory, develop standardised measures, and in particular there is a need for programmatic research.
- c) Put less reliance on verbal reports.
- d) Put more effort into developing reliable measurement techniques.
- e) Pay more attention to methods of measuring dynamic states.
- f) Carry out more tests of validity which would enable the 'good' measures to be identified and the 'bad' measures to be thrown out.
- g) Use more multi-variable models and study the effects of variables on each other.
- h) Only use high powered statistics where appropriate and beware of using high powered statistics on crude, inaccurate data.

APPENDIX THREE

THE CREAM CLEANSER QUESTIONNAIRE

THE FABRIC CONDITIONER QUESTIONNAIRE

SOURCE: QED International

10. With the help of this card (CARD F) could you tell me how satisfied or dissatisfied you are with your usual brand(s) of cream cleanser when thinking about (READ OUT STATEMENT)

(REPEAT FOR EACH STATEMENT)

		<u>Completely satisfied</u>	<u>Satisfied</u>	<u>Dis- satisfied</u>	<u>Completely dis- satisfied</u>
The thickness of the liquid	(22)	1	2	3	4
The smell it leaves	(23)	1	2	3	4
The ease with which it rinses off	(24)	1	2	3	4
The price	(25)	1	2	3	4
The length of time each bottle lasts	(26)	1	2	3	4
Not clogging around the cap	(27)	1	2	3	4
The colour of the liquid	(28)	1	2	3	4
Not separating in the bottle	(29)	1	2	3	4
Its cleaning strength	(30)	1	2	3	4
The shine it leaves	(31)	1	2	3	4
Not scratching surfaces	(32)	1	2	3	4
Its gentleness for cleaning	(33)	1	2	3	4
Its lack of grittiness	(34)	1	2	3	4
The amount of rubbing it requires	(35)	1	2	3	4
The number of cleaning jobs it will do in the house	(36)	1	2	3	4

CLASSIFICATION SECTION

(28)

AREA: Hardwater 1
Softwater 2

(29)

AGE: 34 or under 1
35-55 2

OCCUPATION

(30)

AB 1
C1 2
C2 3
DE 4

NO. OF ADULTS IN HOUSEHOLD (31)

NO. OF CHILDREN AGED FOUR OR UNDER (32)

NO. OF CHILDREN AGED FIVE TO SIXTEEN (33)

TOTAL NUMBER IN HOUSEHOLD..... (34)

SURFACES IN THE HOUSE (35)

Stainless steel sink in kitchen V

Porcelain/Enamel sink in kitchen or bathroom X

Enamel bath 0

Plastic bath 1

Formica type worktops 2

Chrome surfaces 3
(e.g. taps, cooker rings etc)

Wall tiles 4

Cooker tops: stainless steel 5

Cooker tops: enamel 6

Draining board - stainless steel 7
- other 8

FABRIC CONDITIONER QUESTIONNAIRE

Serial No. (cols 1 - 2)

----- 3/1

- 1a. With the help of this card (A₂) could you please tell me which of these brands of fabric conditioner you have heard of?
(IF NONE HEARD OF GO TO Q2)
- 1b. Could you tell me which brand(s), if any, you normally use when doing your household washing?
- 1c. And could you tell me which brand(s) you have ever used in your household?

	1a. <u>Heard of</u> (4)	1b. <u>Normally use</u> (5)	1c. <u>Ever used</u> (6)
Comfort	1	1	1
Softlan	2	2	2
Lenor	3	3	3
Boots	4	4	4
Sainsbury's	5	5	5
Other supermarkets own (SPECIFY)	6	6	6

Other (SPECIFY)	7	7	7

NONE	8	8	8

xxxx

5. I'm going to read out a list of things people say are important when doing their washing. Could you please tell me whether you find each of the following important or unimportant. First of all

	<u>Important</u>	<u>Unimportant</u>
	(52)	(53)
Fabric not getting twisted or matted	V	V
Clothes and towels staying soft	X	X
Manmade items not crackling and clinging	0	0
Harsh powders or washing machine action not harming clothes and things	1	1
Being sure all the powder is rinsed out	2	2
Not having the cost of using several different washing products	3	3
The washing having a nice smell when its dried indoors	4	4
Items smelling pleasant when they're being washed or ironed	5	5
Not having to sort out the washing and wash different things separately	6	6

13. With the help of this card (CARD B), could you tell me how much you agree or disagree with each of the following statements.

		<u>Agree strongly</u>	<u>Agree</u>	<u>Disagree</u>	<u>Disagree Strongly</u>
Once I've found a fabric conditioner I stick with it	(39)	1	2	3	4
I trust fabric conditioners which have been around for a long time	(40)	1	2	3	4
I know how to wash clothes properly so I don't need a fabric conditioner	(41)	1	2	3	4
I like fabric conditioner because it keeps things fluffy, soft and nice to touch	(42)	1	2	3	4
I stick to well-known brands	(43)	1	2	3	4
Fabric conditioner is too expensive to use in all my washing	(44)	1	2	3	4
There's no point using fabric conditioner on more things than I usually do because it wouldn't make any difference to them	(45)	1	2	3	4
I don't use fabric conditioner on certain items in case it damages them	(46)	1	2	3	4

GO TO Q18.

16. When choosing your weekly washing products in a shop, could you please tell me how likely or unlikely each of the following statements would be to make you want to buy a fabric conditioner. (CARD G)

		<u>Very Likely</u>	<u>Likely</u>	<u>Unlikely</u>	<u>Very Unlikely</u>
If I felt fabric conditioners made clothes nicer to wear	(34)	1	2	3	4
If I wanted the clothes to smell nice when drying indoors	(35)	1	2	3	4
If I thought it would help me with my ironing	(36)	1	2	3	4
If I thought fabric conditioner would be simple to use	(37)	1	2	3	4
If I felt the clothes had become a bit harsh recently	(38)	1	2	3	4
If I felt that fabric conditioner really made a difference	(39)	1	2	3	4
If I had just bought something I wanted to take particular care of	(40)	1	2	3	4
If I had just bought a new washing machine with a fabric conditioner dispenser warning light	(41)	1	2	3	4
If a friend had suggested that a fabric conditioner was worth it	(42)	1	2	3	4
If I thought it would make sure that all the powder was rinsed out	(43)	1	2	3	4
If I wanted to get rid of static electricity	(44)	1	2	3	4

ASK ALL RESPONDENTS

18. Could you tell me which of these statements best describes the way you feel about getting information on fabric conditioners.

(49)

I am not interested at all in any information on fabric conditioners

1 GO TO Q25

I am not really interested in any information, but if I came across it I would look at it

2)
) GO TO Q19

I would quite like information on fabric conditioners

3)
)

19. What sort of things would you like to know about fabric conditioners? (PROBE)

(50)
(51)

20. Is there anything you would like to know about what is in fabric conditioners and how it works?

(52)

Yes 1

No 2

IF YES: What is it exactly you would like to know? (PROBE)

(53)

21. Is there anything you would like to know about what fabric conditioners can do for different sorts of washing?

(54)

YES	1
NO	2

IF YES: What is it exactly you would like to know? (PROBE)

(55)

22. Is there anything you would like to know about any possible harm it might do to fabrics?

(56)

YES	1
NO	2

IF YES: What is it exactly you would like to know? (PROBE)

(57)

23. Are there any instructions you would like on how to use a fabric conditioner?

(58)

YES	1
NO	2

IF YES: What is it exactly you would like to know? (PROBE)

24. Where would you ideally want to find information about fabric conditioners?

(60)

- Leaflet 1
- Magazine/newspaper 2
- TV Advertising 3
- Other Advertising 4
- Label 5
- Other (SPECIFY) 6

25. You said you were not interested in information on fabric conditioners. Could you tell me why that is? (PROBE)

(61)

(62)

CLASSIFICATION SECTION

(71)

AREA:	Hard water	1
	Soft water	2

(72)

AGE:	34 or under	1
	35-55	2

OCCUPATION _____

(73)

AB	1
C1	2
C2	3
DE	4

NO. OF ADULTS IN HOUSEHOLD (74)

NO. OF CHILDREN IN HOUSEHOLD (75)

NO. OF CHILDREN AGED FIVE TO SIXTEEN..... (76)

TOTAL NUMBER IN HOUSEHOLD..... (77)

WASHING FACILITIES

(78)

Automatic with fabric conditioner dispenser/warning light 1

Automatic without provision for fabric conditioner 2

Twin Tub 3

Tumble drier 4

Other (specify) 5

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