A NEW BEEF PRODUCT ADOPTION

MODEL FOR HOTELS AND MOTELS

IN GREATER MELBOURNE

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of the requirements for the
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ABSTRACT

The introduction of new beef products to foodservice is impeded by the lack of models for new product adoption by the foodservice industry and its product development process. The three aims of this research were to develop a model of the relationship between the developer and the adopter, to investigate the factors affecting the decision making process for new beef product adoption and to construct a model of the stages involved in the new beef product adoption process.

The stages involved in the new product adoption process were investigated during the development of new products by suppliers of different types of beef ranging from fresh to fully processed. This *'in vivo'* research method provided a means of monitoring the developer/adopter relationship through all stages of the new product adoption process. The research was with menu planning decision makers over twelve months and involved the development of two new beef products which were tested in consumer and chef trials. The same hotels and motels in Melbourne, Australia, were used in three surveys, 73 for the first, 48 for the second and 34 for the third.

The model of the developer/adopter relationship combined the new product adoption process with the new product development processes of the menu planning decision makers and the suppliers. The interfaces between the developer(supplier)/adopter and the adopter/developer(menu planning decision maker) were the key links between the new beef product adoption process and the two product development processes.

Factors important for new beef product adoption were: the developer/adopter relationship; the personnel involved, and; the product. Decision makers used few steps in menu planning and these did not involve documentation so emphasising the need for strong personal communications between developer and adopter. The most influential personnel throughout the entire process were the 'Chefs in Charge' who made up the majority of menu planning decision makers. Quality was found to be the most critical benefit for all product types and the greatest critical risk was related to the chef's desire for peer recognition.

The new beef product adoption process had four stages:

* Product Awareness and Interest;
* Product Concept Evaluation;
* Prototype Trial, and;
* Product Adoption.

Awareness and interest were most likely to be raised by direct communication between supplier and adopter and were influenced by both supplier characteristics and loyalty. Evaluation of product concept benefits and risks were the basis for the product design specifications. At the prototype trial stage product benefits and risks influenced purchase intention. This signalled the beginning of the adoption stage, which is completed after post-purchase evaluation. Although the two new products were acceptable to both the menu planning decision makers and the consumers the menu planning decision makers preferred the fresh rather than the prepared ready-to-cook product indicating a need for new beef products to be compatible with products in current use. Thus, compatibility, and the appearance of continuous innovation, with existing products are recommended for the encouragement of new beef product adoption by foodservice.

This first model of the new product adoption process for foodservice not only incorporates factors common to previous industrial buying behaviour models but also identifies factors characteristic of foodservice operations and their new product development process, menu planning.

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CHAPTER 1

NEW BEEF PRODUCTS AND THE FOODSERVICE INDUSTRY

In recent years the Australian Meat and Live-stock Corporation has recognised that a problem has developed for the red meat industry. In Australia, from 1970 to 1992, there was a fall of 10 kg (from 69 kg to 59 kg) in total per capita meat consumption (OECD, 1979-1994)[1]. The fall in per capita consumption of red meat was 21 kg including a 4 kg fall in per capita beef consumption (from 24 kg to 20 kg). This, together with increases of 8 kg (from 8 kg to 16 kg) in poultry consumption and 3 kg (8 kg to 11 kg) in pig meat consumption, indicated a trend in consumer preference from red to white meats. Similar trends in meat consumption have been noted in New Zealand, the U.K. and the U.S.A. with consumers moving towards more healthy eating and demanding leaner beef (Baron, 1988; Breidenstein, 1988; Woodward, 1988; Anderson, 1991; Borchert, 1991; Watson, 1994) which the red meat industry has been making every effort to satisfy though not always with the desired results (Welland, 1992; Francis, 1993). In addition poultry continues to display an ever increasing variety of new products (Bjerklie, 1991; Grikitis, 1991) and offers what many consumers perceive as greater convenience (Anderson and Shugan, 1991).

Research into meat purchase patterns in Australia has shown that beef is very important to the foodservice industry (AMLC, 1989, 1990, 1992), that Australians prefer to eat beef when eating away from home and that the foodservice industry is likely to be receptive to the introduction of innovative value-added red meat products (Technomic Dodwell Consultants, 1993).

If beef is to maintain its advantage over competitors and combat the fall in consumption new beef products need to be developed for, and adopted by, the foodservice industry. In an effort to find ways of improving markets for red meat

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1 Calculated from OECD Meat Balances and adjusted to separate lean weight using the conversion factors provided by Seman and McKenzie-Parnell (1989).

investigations into the foodservice industry (AMLC, 1992) showed that two market segments from the commercial sector, Hotels/Motels and Restaurants/Cafés, spend the greatest proportion of their total meat, poultry and seafood expenditure on beef. Exploratory market research conducted by the author into the use of beef by these two market segments identified Hotels/Motels as most likely to accept new beef products (Appendix 1).

1.1 Beef as a Raw Material for the Foodservice Industry

A "Strategic Marketing Analysis Committee" to combat erosion of the beef industry in the U.S.A. proposed strategies which included the development of new value-added beef products for the foodservice industry (Mannion, 1992). The major challenges to beef were based on cost, variety, convenience and healthfulness; and there was a growing awareness that there were not as many new products on the market using beef as there were for chicken and turkey. Among the key recommendations were proposals to develop new menu items in cooperation with fast food and foodservice partners.

In Australia an increasing proportion of household income is being spent on eating out. In 1974, 20% of total household food expenditure was on meals eaten away from home (ABS, 1977). By 1984 this had increased to 22% (ABS, 1986) and to 27% in 1994 (ABS, 1996). "Medium term growth" for the foodservice sector was expected to be double that for the retail sector (AMLC, 1992). This suggests that the foodservice market will be of growing importance to the beef industry (AMLC, 1989; AMLC, 1992).

Food and beverage expenditure by the foodservice industry in Australia in 1991 was estimated to be $3.74 billion. Of this 41% ($1.52 billion) was spent on meat, poultry and seafood. The greatest proportion, 34% ($0.52 billion), was spent on beef and veal compared to 25% for seafood, 20% for poultry, 10% for processed meat, 6% for pork and 5% for lamb (AMLC, 1992). Beef, therefore, is already well established as a meat raw material for the foodservice industry.

There are two sectors of the foodservice industry: commercial and institutional. In 1991, in Australia, $3.06 billion, 82% of the industry's total food and beverage expenditure, was spent by the commercial sector compared to $0.68 billion by the institutional sector (AMLC, 1992). It was estimated that the commercial sector expenditure on beef and veal was $478 million (compared to only $45 million by the institutional sector), thus providing the largest potential foodservice market for new beef products.

1.2 Selection of the Market Segment for the New Beef Product Adoption Study

The commercial foodservice sector was divided into five market segments in the 1992 AMLC report and their annual food expenditure in 1991 is shown in Table 1.1.

Table 1.1: Expenditure on Food and Beverages in 1991 for the Commercial Sector of the Australian Foodservice Industry

Commercial Sector Market Segment	Annual Expenditure					
	Food & Beverage		Meat, Poultry & Seafood		Beef and Veal	
	$ (million)	%*	$ (million)	%*	$ (million)	%*
Fast Food/Takeaways	1131	37	382	28	100	21
Hotels/Motels	856	28	423	31	158	33
Restaurants/Cafés	794	26	423	31	153	32
Catering	183	6	96	7	48	10
Clubs	92	3	41	3	19	4
TOTAL	3056	100	1365	100	478	100

* % of the annual total for the commercial sector.
Source: AMLC (1992)

Fast food operations, especially the major chains, often have menus offering a limited range of meat: for example, chicken by Kentucky Fried Chicken. These companies tend to be proactive and usually have agreements with food suppliers and processors for the collaborative design of new products. Despite the fact that the fast food segment had the largest food and beverage expenditure in 1991 its expenditure on meat, poultry and seafood was similar to that of Hotels/Motels and Restaurants/Cafes. Together the Hotels/Motels and Restaurants/Cafes market segments accounted for 65% of the total beef and veal expenditure by the commercial sector. These two market segments were, therefore, selected by the author for the exploratory market research.

The results of the exploratory market research showed that the market for beef was well established in hotels and motels, sales of beef dishes and annual expenditure on beef being much greater than for restaurants and cafes (see Appendices 1, 2 and 3). Further the popularity of steak and the lack of any serious competition for beef as a main course dish indicated that beef had a very secure position on menus in the Hotels/Motels market segment. A need for new beef products was identified not only to provide chefs with some relief from the constraints under which they worked but also to enable them to create new beef dishes to fill 'gaps' in the menu. For these purposes chefs were receptive to the introduction of new beef products and so opportunities for new beef product development for the well established Hotels/Motels market segment were worth exploring.

1.3 Beef Suppliers and their Relationship with the Foodservice Industry

There are two major market channels supplying foodservice operations with beef:

* Wholesale Butcher/Retail Butcher -----→ Foodservice Operation -----→ Consumer
* Meat Processing Company ----→ Distributor -----→ Foodservice Operation -----→ Consumer.

The largest market channel for the supply of fresh meats involves the wholesale butcher or retail butcher (AMLC, 1990; AMLC, 1992; Technomic Dodwell

Consultants, 1993). Prepared ready-to-cook and pre-cooked meats are usually produced by meat processing companies who supply their products either through a distributor or directly to large companies with specialised menus like fast food chains. Subsequently the foodservice operations use the fresh and processed meat in the preparation of dishes for their own customers, the consumers.

Recent market research (Technomic Dodwell Consultants, 1993) assessed the use of meat and seafood by the foodservice industry in Australia and the opportunities for semi-processed value-added red meat products. The difficulty faced by foodservice operators was in obtaining new beef products from suppliers. They found that wholesale butchers had little creativity and offered little encouragement or feedback; yet the role of butchers was considered of great significance in the dissemination of information about products. Further, the foodservice operators were sure that distributors and manufacturers of value-added[2] and semi-processed food were capable of a better understanding of their individual requirements. The findings of this report highlighted the problems in communication encountered by foodservice operators with their suppliers.

1.4 Menu Planning Decision Makers and their Needs in Beef Products

In foodservice operations the type and quantity of beef products to be purchased is decided by the menu planning decision makers who select the dishes to be offered on their menus. In the exploratory market research not only was beef shown to be well established in hotel/motel menus but also people chose to eat at hotels/motels because of the beef. Menu planning decision makers took into account both customer demand and their own needs when selecting the types of beef products to purchase. The larger foodservice operations, in particular, purchased portion controlled beef specifically to save time and to reduce waste. This indicated that the menu planning decision makers in these operations, in order to relieve some of the

[2] Products which have had additional work carried out on them including preparation, processing and/or cooking. In this context portion controlled beef has had value added to it.

pressures upon themselves, were willing to consider using value-added products. They also seemed willing to consider new value-added products but they were very protective about maintaining opportunities for their own creativity. This was in agreement with the results of the study undertaken by Technomic Dodwell Consultants (1993).

The exploratory market research showed that consumers, although they liked to think that the food was prepared for them by the chef in the kitchen, were not against the use of value-added products. Indeed they could see the advantages, especially in saving time both for themselves and for the foodservice operation.

Technomic Dodwell Consultants (1993) predicted continuing consumer trends for healthy eating with leaner meats and smaller portions being demanded by foodservice consumers. Emphasis was placed on flexibility and variety, and red meats were seen by the industry as versatile and easy to prepare. Beef was seen as the fastest growing food type because of the ease with which it can be prepared and handled. The biggest problem with beef was inconsistency in quality and tenderness. Processed and convenience meats were purchased in low quantities but it was predicted that more pre-prepared foods would be used though with some resistance from "high class chefs". Further, Hotels/Motels were willing to try new cuts of meat in order to keep up to date and were looking for new ideas and methods of menu presentation. New products were considered to be important to the industry.

1.5 Product Adoption Models in Industrial Marketing

In order to assist meat companies both with the development of suitable new value-added beef products and in overcoming communication problems between foodservice operators and their suppliers more knowledge of the process by which new beef products are adopted by foodservice operations is needed. These concepts will be developed in more detail in Chapter 2 but will be introduced here in order to place the aims of the project in context.

Over the past 35 years models of buying behaviour and of the new product adoption process have been developed to provide a means of understanding the underlying factors. In 1962 Rogers produced the first model of the diffusion of innovation. Webster (1969) provided an industrial marketing framework for the development of a model of the new product adoption process. Subsequent new product adoption models have been based upon this framework and extended through the results of empirical research. Buying behaviour models were also developed during the 1960's and early 1970's both for consumers (Howard, 1963; Nicosia, 1966; Engel et al., 1968; Howard and Sheth, 1969) and for industry (Robinson et al., 1967; Webster and Wind, 1972; Sheth, 1973). These have since been extended and refined as more empirical research, often within specific industries, has been completed.

None of these models has been applied to the foodservice industry nor to the adoption of new beef products by foodservice. The processes are more complex than those seen in a simple buying or adoption situation. There are two product development processes taking place at the same time as the adoption of the new beef product. One is undertaken by the supplier, who develops the new beef product for foodservice, and the other by the menu planning decision maker when incorporating these beef products into new dishes for the menu and ultimate consumer.

The new product development process has been well documented in the literature. The earliest model was developed by Booz-Allen and Hamilton (1968) and subsequent models have been built upon this foundation with significant contributions being made by Earle (1971) and Cooper (1983). Equivalent models have not been produced specifically for menu planning, although some authors have applied the new product development process used by food processors (Balascio, 1986; Feltenstein, 1986). There has been some interest in the developer/adopter relationship and More (1986) has evaluated models of new product adoption, buying behaviour and new product development to identify and match the sub-processes involved in new industrial product situations.

A model for the new product adoption process for foodservice is needed which is based upon the framework of the major new product adoption models whilst incorporating the relevant aspects of buying behaviour models. It should be built with due regard to the developer/adopter relationship between the supplier and the foodservice operation. The menu planning process should be an integral part of the model and should allow for an interface with the suppliers' new product development process. It has been shown that the Hotels/Motels market segment offers opportunities for the introduction of new beef products and so will enable the practical development and testing of the process used by foodservice for new beef product adoption.

1.6 Aims of the Project

The Hotels/Motels market segment has been shown to be a well-established market for beef (AMLC, 1992). Further, the hotels/motels in Greater Melbourne were found to be representative of this market segment and provided a concentration of operations within a compact geographical area, suitable for random sampling used in this study (Appendix 1).

The aims of this research, for the Hotels/Motels market segment of the foodservice industry in Greater Melbourne, were:

* to develop a model of the developer/adopter relationship between the beef supplier and the foodservice operation.
* to investigate the factors which affect decision making in the new beef product adoption process;
* to construct a model of the new beef product adoption process, incorporating the new product development process undertaken by menu planning decision makers, the supplier's new product development process and details of the stages involved.

CHAPTER 2
BUYING BEHAVIOUR AND NEW PRODUCT ADOPTION IN INDUSTRIAL MARKETING AND IN FOOD SERVICE

The new beef product adoption process in foodservice involves the meat wholesaler/distributor as the supplier, the foodservice operation as the purchaser and ultimately, consumers who eat the prepared meal. It is an industrial marketing situation in which the supplier develops a new product which enters into a second new product development process, menu planning, carried out by the foodservice operation during the new product adoption process.

No published models of new product adoption by the foodservice industry were found in the literature. Thus, in order to prepare a plan for this research a hypothetical model was developed following a review of buying behaviour and new product adoption models.

New product adoption is a form of buying behaviour, but existing new product adoption models focus on the diffusion of innovation rather than incorporating the extensive range of factors which affect buying behaviour. In an industrial buying situation, the adopter is the industrial buyer and the consumer is the ultimate purchaser of the product developed by the adopter. The emphasis was, therefore, on industrial buying behaviour but it was also necessary to study consumer buying behaviour.

In addition models for the product development process and the developer/adopter relationship were studied so that a complete new product system in industrial marketing could be applied to the foodservice industry.

2.1 Consumer Buying Behaviour Models

The first integrated models of consumer buyer behaviour were proposed in the 1960's by Howard (1963) and Nicosia (1966). The most widely reported models are: Engel, Blackwell and Kollat, 1968 (EBK) and Howard and Sheth, 1969 (HS). These models include five decision process stages which are:

Stage	EBK Terminology	HS Terminology
1	Problem Recognition	Attention
2	Search	Brand Comprehension
3	Alternative Evaluation	Attitude
4	Choice	Intention
5	Outcomes	Purchase

In the EBK model two main groups of factors influence the decision-making process:

* those involving information input and processing;
* those involving environmental and individual influences and their effect on brand evaluation.

Consumers filter incoming information and they may search for more information if a choice is to be made. This information will affect other data stored in the consumer's memory, which in turn may lead to changes in beliefs, attitudes and intention to purchase.

Environmental influences include cultural values, reference groups, family and anticipated circumstances. These are all assimilated and are viewed as stored information and experience which affect motives and intentions to purchase. Individual influences, which include personality, lifestyle and acquiescence to cultural norms and values will also be important in influencing a consumer's motives and intention to buy. Finally the information and experience entering the consumer's memory has an effect on the evaluative criteria and beliefs of the consumer. This can lead to a change in attitude and further affect the intention to purchase.

The HS model involves similar factors to the EBK model and expands upon these basic principles through additional consideration of physical and symbolic inputs, quality, price, and other functional parameters related to the product or service.

2.2 Industrial Buying Behaviour Models

The first significant model of industrial buying behaviour, the "Buygrid Model", was proposed by Robinson et al. (1967). This was followed in the early 1970's by two more important models proposed by Webster and Wind (1972) and Sheth (1973). These three models have since provided the conceptual framework for the study of organisational buying behaviour (Johnston and Lewin, 1994). In a comprehensive review of the industrial buying process Haas (1992) divided models of organisational buying behaviour into three types:

* ***task*** models which explain organisational buying behaviour in terms of the variables directly relating to purchasing decisions;
* ***non-task*** models which include non-economic variables relating to human factors;
* ***complex*** models which combine both task and non-task variables.

Many more models were proposed in the 1970's and 1980's, but were severely criticised for being too simple, descriptive, either task oriented or non-task oriented (rather than complex), or unable to generate testable hypotheses (Sheth, 1973; Moriarty and Bateson, 1982; Moriarty and Spekman, 1984; Anderson et al., 1987). McQuiston (1989) noted that the 'Buygrid Model' was an exception and Haas (1992) described it as "the most enduring" model.

2.2.1 The Buying Task

The Buygrid Framework involves the use of eight buyphases for three buyclasses in a matrix form (Robinson et al., 1967). An outline of this model is provided in Exhibit 2.1. A new task arises when a product is purchased for the first time; modified rebuy is when a product already being purchased is being reviewed in terms of supplier because of dissatisfaction with the product, price or service provided; and straight rebuy is when a product is re-ordered from the original supplier. For new product adoption the buyclass is new task and all of the buyphases are involved, whilst for modified rebuy and straight rebuy fewer of the buyphases are involved.

Exhibit 2.1: The "Buygrid" Model for Industrial Purchases

Matrix Dimension 1 - 'Buyclasses'

1. New Task
2. Modified Rebuy
3. Straight Rebuy

Matrix Dimension 2 - 'Buyphases'

1. Anticipation or recognition of a problem (need).
2. Determination of the characteristics and quantity of the needed item.
3. Descriptions of the characteristics and quantity of the needed item.
4. Search for, and qualification of, potential sources.
5. Acquisition and analysis of proposals
6. Evaluation of proposal and selection of supplier(s)
7. Selection of an order routine.
8. Performance feedback and evaluation.

Source: Robinson et al., 1967.

Webster and Wind (1972) reduced the task process to five stages:

* identification of need;
* establishment of specifications;
* identification of alternatives;
* evaluation of alternatives;
* selection of suppliers.

Some authors believe that the degree of influence of particular individuals is affected by both the "buyphase" and the "buyclass" (Pingry, 1974; Naumann et al., 1984; Anderson et al., 1987). Others disagree, for new tasks it is often the skilled person who has the most say, while for the straight rebuy it is the purchasing agent (Pingry, 1974; Bellizi and McVey, 1983; Anderson et al., 1987).

2.2.2 Complex Buying Models

Webster and Wind (1972) stated that "organizational buying is a decision-making process carried out by individuals, in interaction with other people, in the context of a formal organization" and is affected by factors in the environment. The four classes of variables were environmental, organisational, group, and individual. Sheth (1973) added two more classes; product and information. Each class included task and non-task variables.

Environmental characteristics define the general business conditions and the availability of goods and services, they determine the values and norms which guide inter-organisational and interpersonal relationships and the information flow within the organisation (Robinson et al., 1967; Webster and Wind, 1972; Sheth, 1973).

Organisational characteristics place constraints on buying behaviour through the available financial, technological and human resources and are directed and motivated by the organisation's goals (Robinson et al., 1967; Webster and Wind, 1972; Sheth, 1973).

Interpersonal characteristics are defined in terms of **The Group or Buying Centre** which includes everyone in the organisation involved in the buying process (Webster and Wind, 1972). The roles of buying centre members are defined as:

* users - those who use the purchased product or service;
* buyers - those who have responsibility and authority to contract with suppliers;
* influencers - those who influence the decision process, providing information and criteria for evaluation of alternative buying actions;
* deciders - those who have authority to choose between alternative buying actions;
* gatekeepers - those who control information and materials flow into the buying centre.

The buying centre has been the focus of attention for much of the research done on industrial buying behaviour (Webster and Wind, 1972; Johnston and Bonoma, 1981; Bonoma, 1982; Jackson et al., 1984; Mattson, 1988). A major problem has been to identify the persons involved (Anderson et al., 1987; Reeder et al., 1991) but there are models which address this issue (Mattson, 1988). Buying group structure has been investigated particularly in relation to dynamics and power relationships (Zaltman and Bonoma, 1977; Spekman and Stern, 1979; Johnston and Bonoma, 1981; Moriarty and Bateson, 1982; Thomas, 1984; Kohli, 1989). Buying behaviour for small businesses has been found to be different to that of corporate buyers. In small businesses the buying centre is small, the process is informal and the in-house expertise is low. Word of mouth communication is, therefore, important especially between experienced and new buyers (File and Prince, 1992).

Individual participant characteristics are important as finally it is the individual who defines and analyses the buying situation (Robinson et al., 1967; Webster and Wind, 1972; Sheth, 1973). Webster and Wind (1972) noted that risk avoidance is a key motivational influence on individuals in organisations and identified two categories of non-task motives: achievement and risk-reduction. The Sheth (1973) model focused on joint decision making and the complex relationships involved. There are three approaches in this model:

* the expectations of the individuals involved in the decision making process described as "the psychological world of the decision makers";
* what determines joint as opposed to individual decision making;
* how resolution of conflict is approached.

Product characteristics relating to time pressure, perceived risk and type of purchase were incorporated into the Sheth model (1973). In the "Buygrid" model buyclass rather than product type was used as a dimension (Robinson et al., 1967). Emphasis on product type was considered by some to be unnecessary (Lilien and Wong, 1984) although there are certain product classes which do need a special "Buygrid" model (Choffray and Lilien, 1978).

Information characteristics were specified by Sheth (1973) as important factors in the decision making process. Sources of information contribute to the expectations of individuals involved in the decision making process. Sheth noted that potential suppliers are expected to satisfy both explicit criteria as to; product quality, delivery time, quantity of supply, after sales service and price, and implicit criteria as to; reputation, size, location, reciprocity relationship with the buyer, personality, technical expertise, "salesmanship" and lifestyle of the salesperson. Further he identified three departments participating in the decision making process; purchasing, quality control (technical), and manufacturing (users). Personnel from different departments often have different combinations of criteria and this leads to conflict.

It is joint decision making which distinguishes industrial from consumer buying behaviour models (Haas, 1992) but there is some "blurring of the industrial/consumer behaviour boundary" (Smith and Bard, 1989). According to Haas (1992) the industrial purchasing decision process emphasises physical, observable stages because several people are involved in different ways in each phase whilst the consumer purchasing decision process is described in terms of mental stages from problem recognition, information search, information evaluation, purchase decision making, to post-purchase behaviour.

From a comparison of the three principal models of organisational buying behaviour Johnston and Lewin (1994) identified nine groups of variables which affect organisational buying behaviour. These included environmental, organisational, participant, purchase, seller, group, informational and conflict/negotiation characteristics as well as the process/stages involved in organisational buying behaviour. They incorporated these into an integrated model of organisational buying behaviour together with two additional groups of variables, decision rules and role stress, which they identified from a comprehensive literature review. Exhibit 2.2 summarises the nine groups of variables included in the three earlier models of organisational buying behaviour and incorporates the two additional groups of variables identified in the literature by Johnston and Lewin (1994).

Exhibit 2.2: Variables Incorporated into the "Integrated Model of Organizational Buying Behavior"

Variables in Robinson et al. (1967), Webster and Wind (1972) and Sheth (1973) models

1. **Environmental Characteristics:**
   physical; political; economic; suppliers; competitors; technological; legal; cultural; global.
2. **Organisational Characteristics:**
   size; structure; orientation; task and goals; technology; rewards.
3. **Participant Characteristics:**
   education; motivation; perceptions; personality; risk preference; experience.
4. **Process/Stages in Organisational Buying Behaviour:**
   need recognition; determine characteristics; establish specifications; identify potential sources; request proposals; evaluate proposals; select supplier; post-purchase evaluation.

Variables in Robinson et al. (1967) and Sheth (1973) models

5. **Purchase Characteristics:**
   risk; buy task; product type; limited time; importance; complexity.
6. **Seller Characteristics:**
   price; product; quality; service; image.

Variables in the Webster and Wind model (1972)

7. **Group Characteristics:**
   size; structure; authority; membership; experiences; expectations; leadership; objectives; backgrounds.

Variables in the Sheth model (1973)

8. **Informational Characteristics:**
   message; sources; amount needed; active search; distortion.
9. **Conflict/Negotiation Characteristics:**
   cooperative; persuasive; bargaining; politicking; use of power.

Variables identified in the literature by Johnston and Lewin (1994)

10. **Decision Rules:**
    formulas; "rules of thumb".
11. **Role Stress:**
    conflict; ambiguity.

Source: Johnston and Lewin (1994)

2.3 The New Product Adoption Process

The classical studies carried out in the early 1960's by Rogers (1962) resulted in a rural diffusion model for new products which was corroborated by Mansfield's (1968) description of an industrial diffusion process and was the starting point for the development of other new product adoption models. Webster (1969) provided the bridge between Rogers' diffusion of innovation model and a sequence of new product adoption models for industrial markets which utilised the research already done on buying behaviour. He outlined a framework for analysis of new product adoption in industrial markets supporting Rogers' (1962) five stage model:

Stage 1: Awareness
Stage 2: Interest
Stage 3: Evaluation
Stage 4: Trial
Stage 5: Adoption

Ozanne and Churchill (1971) used the same five stages and extended the model utilising the results of an *ex post facto* field study undertaken in 1967 on the adoption of a new automatic machine tool introduced four years earlier. Since then other aspects of the model have been developed through empirical studies.

In 1983 Rogers revised his earlier model of the innovation decision process, the stages becoming:

Stage 1: Knowledge
Stage 2: Persuasion
Stage 3: Decision
Stage 4: Implementation
Stage 5: Confirmation

The potential adopter must get to know of the existence of the innovation in order to form an attitude towards it. Thus the stages, ***knowledge*** and ***persuasion,*** correspond to those of ***awareness*** and ***interest*** in the earlier model. Activities are then carried out which lead to a decision to adopt or reject the innovation. This is followed by implementation when the adopter starts to use the innovation and finally by activities which lead to confirmation or reversal of the decision. The ***decision*** stage corresponds to the ***evaluation*** and ***trial*** stages of the earlier model when the adopter assesses the product prior to making the purchase decision. ***Implementation*** and ***confirmation*** correspond to the earlier ***adoption*** stage which, once the purchase decision has been made, includes both use of the product and post-purchase evaluation.

Although Rogers (1983) supported Hassinger's (1959) view that the need for an innovation must precede awareness or knowledge of the innovation he added that knowledge of an innovation can also lead to need. He noted that research has not shown which comes first, need or knowledge. At the persuasion stage, innovation evaluation information is sought, often from the peer group of the decision maker(s), in an effort to reduce uncertainty. Once the decision has been made, however, adoption and putting the innovation to use are not the same thing. Implementation often involves problems and the adopter has to obtain more information in order to solve the problems. Implementation may also involve "re-invention" which is defined as "the degree to which an innovation is changed or modified by a user in the process of adoption and implementation". Adopters tend to think that re-invention is good and Rogers (1983) noted that it is more likely to take place if the innovation is used to solve a wide range of problems.

In 1987 Assael added another intermediate step, legitimisation, between evaluation and trial. In earlier work others had reduced the stages to three: introduction (awareness and interest); consideration (evaluation and trial), and; adoption (Martilla, 1971).

2.3.1 Awareness and Interest

During these stages information sources have an important influence on the adopter. Information sources were classified by Moriarty and Spekman (1984) into two dimensions: commercial/non-commercial and personal/impersonal. Commercial impersonal sources of information including supplier brochures and catalogues were used in earlier stages of the buying decision process (Webster, 1970) but were also sought by decision makers in later stages (Moriarty and Spekman, 1984) .

Representatives of the selling company were found to be the most useful sources of information at all stages of the new product adoption process (Webster, 1970; Martilla, 1971). Buyers in other companies were the least useful sources of information at all stages (Webster, 1970) although word of mouth communication between firms was shown by Czepiel (1974) to be important in the well established steel industry.

More information sources were used by decision group members who had travelled more widely or were more highly educated (Ozanne and Churchill, 1971).

Supplier loyalty was very evident in the purchase of industrial components, with organisational variables including pressure for cost savings, dollar value of order and number of complaints, having the most significant effect on the degree of loyalty shown (Wind, 1970).

2.3.2 Evaluation

In this stage the product concepts are developed and tested. Product concept has been defined by Chapman (1988) "as a particular subjective consumer meaning, which a company tries to build into a product idea, the latter being a possible product described in objective or functional terms". Product concept testing is often used in the development of consumer products to test consumer reactions, to estimate the size of the potential market and to see how the product idea might be improved (Wind, 1973; Moore, 1982). In industrial product development, the product concept test is seldom used, so the adopter does not often have the opportunity to evaluate new products early in their development (Cooper, 1983; Cooper and Kleinschmidt, 1986; Mahajan and Wind, 1992). It has been suggested that this is because consumer methods are not suitable for industrial products (Page and Rosenblaum, 1992).

Cooper, in 1983, described a process for industrial product concept development and testing including a "concept identification" market study which contributed to the definition of product design specifications. These were then translated into a technically feasible operational concept which was evaluated in a concept test with the customers. He stated that the final product concept should have enough detail for industrial buyers to evaluate the concept in terms of interest, liking and intention to purchase as well as to provide important feedback on suggested modifications and reasons why the product may not be acceptable.

The presentation of the product concept is important (Colby, 1973; Iuso, 1975; Bloom, 1977); as the use of different styles could result in products receiving different ratings with each method (Reidenbach and Grimes, 1984). However, Armstrong and Overton in 1971, and Tauber in 1972, found that the extent of information provided had a negligible effect on product ratings and intention to purchase. Tauber (1975) also noted that concept tests relate to trial behaviour only and not to repeat purchases over time. He suggested that after purchase the product must give satisfactory performance, fulfil a need or solve a problem for the purchaser before adoption. Consumer product concept testing methods were summarised by Moore in 1982, but new approaches for industrial product concept development and testing have been proposed including the "lead user method" described by Herstatt and von Hippel (1992).

2.3.3 Trial

This stage involves the adopter trials of product prototypes. In industrial markets, product prototypes are provided for customers to test in order to identify any defects in the product design and any improvements needed for acceptance (Cooper, 1983). This may be followed by a field test in which the supplier undertakes a pilot production run and implements the marketing plan by making the product available for sale to a limited number of customers (Cooper, 1983; Feldman and Page, 1984). Crawford (1986) has suggested that this market testing can be replaced by market roll-out, which has been based on complex simulation test-market models (Silk and Urban, 1978; Crawford, 1986; Watkins, 1986, Greenwald and Ottenfeld, 1989). Greenwald and Ottenfeld (1989) described five steps used by these models in which the consumer is exposed to a commercial/advertisement for the new product, is given the opportunity to buy the product in a real or simulated supermarket, tests the product at home, is asked for re-purchase intentions and is provided with opportunities to re-purchase over time.

2.3.4 Adoption

Adopters were categorised by Rogers (1983) into five groups in the following proportions:

Innovators	2.5%
Early Adopters	13.5%
Early Majority	34%
Late Majority	34%
Laggards	16%

Rogers' model assumes 100% adoption and does not account for non-adopters. It is the minority of adopters, the innovators, which has been of particular interest to researchers (Jacoby, 1971; Baumgarten, 1975; Midgley and Dowling, 1990). Robertson (1967) suggested that the benefits of being an innovator include the saving of time or energy.

The decision making process at the adoption stage was shown to be affected by personal characteristics (Peters and Venkatesan, 1973), education and experience (Hakansson and Wootz, 1975) and degree of social integration of the decision makers (Robertson, 1967) as well as by company variables (Peters and Venkatesan, 1973).

When decision makers participated in buying games used for empirical research into industrial buying behaviour 'satisfaction with past purchases' was one of the key elements which affected expectations, and post-choice evaluation was used as an aid in future decision making, (Cardozo and Cagley, 1971; Lambert et al., 1977; Puto et al., 1985).

2.4 Factors Affecting the Adoption of New Products

The factors affecting product adoption can be divided into two groups - the benefits affecting the product adoption positively; and the risks affecting the product adoption negatively. The new product itself is an important factor, in particular how innovative it is. It can be a continuous innovation that is an improvement of a present product, or discontinuous innovation, that is a completely new product (Robertson, 1967). Usually, product improvements are easier for industrial customers to adopt because little or no change in equipment or processing methods is needed.

In industrial marketing the importance of product choice criteria (attributes) has been shown to be significantly related to the type of product under consideration (Lehmann and O'Shaughnessy, 1974) and price, quality and service have been identified as the three major criteria (benefits) which dominate industrial buying decisions (Hakansson and Wootz, 1975; Puto et al., 1985; Speir, 1989; Welch and Nayak, 1992).

The major factors which influence the adoption of innovations by industrial organisations were investigated by O'Neal et al. (1973) using the management game, INTOP. They found the most important factors to be:

* the ***relative advantage*** of the innovations over existing products;
* the ***compatibility*** of the innovation for utilisation of present facilities;
* availability of positive information concerning the innovation's ***costs and marketability***.

This confirmed the work of Rogers (1962) and Mansfield (1968).

2.4.1 Benefits

Product benefits were identified by Bauer (1960), Rogers (1962), Mansfield (1968), O'Neal et al. (1973) and Rogers in 1983. Holak and Lehmann (1990) summarised them as:

* ***relative advantage*** - superiority of an innovative product to preceding products;
* ***compatibility*** - consistency of the innovation with the adopters' behaviour patterns, lifestyle and values;
* ***complexity*** - relative difficulty of understanding and using the innovation;

* *divisibility* - extent to which the innovation may be tried on a limited basis without heavy commitment;
* *communicability* - ready transmission of information of product benefits across the population.

They developed an exploratory model demonstrating the relationship of these benefits to purchase intention, and found that compatibility had the greatest positive effect on purchase intention, with relative advantage also having a positive effect. They concluded that; "efforts to make the product appear to be continuous (i.e., compatible) should speed its initial adoption".

2.4.2 Risks

Holak and Lehmann (1990) described ***perceived risk*** as being related to product performance risks and psychosocial risks associated with the product, and showed that these had a negative effect on product purchase intention. Types of risks may involve uncertainty of outcome, for example product quality variation, others involve uncertainty of consequences, for example potential loss of money, loss of time, health and safety hazards and embarrassment (Roselius, 1971; Bettman, 1973; Taylor, 1974; Shoemaker and Shoaf, 1975). Stone and Gronhaug (1993) defined six dimensions of risk, five of which, financial, social, time, performance and physical are "mediated through individual psychological risk to influence overall risk".

In industrial buying, Webster (1969) noted that companies will have some maximum level of risk which they will tolerate, risk being related to the amount of investment; the larger the investment the greater the perceived risk. In addition the purchaser's psychological predisposition, education and experience all contribute variables which affect the behaviour of the decision maker (Hakansson and Wootz, 1975). The most important variable was found to be the purchaser's education. Higher education led to higher risk decisions.

Industrial purchasers used mostly the following three types of risk handling strategies:

* to reduce uncertainty by gathering more information and choosing the alternative which has the most certainty;
* to use mathematical approaches to select the vendor most likely to offer value;
* to spread the risk by multiple sourcing and procurements, the split indicating the risk assessment for each vendor (Sheth, 1973; Puto et al., 1985).

Source loyalty was noted to be a mitigating factor (Mitchell, 1990).

Consumers have been shown to reduce risk by buying a smaller quantity than normal (Shoemaker and Shoaf, 1975), trying a free sample (Roselius, 1971) and through brand loyalty (Sheth and Venkatesan, 1968).

2.5 The Product Development Process for Industrial Products

A staged sequence was first developed by Booz-Allen and Hamilton in 1968. Between 1968 and 1982 a series of descriptive models, each identifying steps in the new product development process and providing flow charts, followed the Booz-Allen and Hamilton model. These included models by Myers and Marquis (1969); Little (1970); Earle (1971); Rothwell (1972), and; Utterback et al. (1976). In 1982 Booz-Allen and Hamilton introduced a revised version:

1. New Product Strategy
2. Exploration
3. Screening
4. Business Analysis
5. Product Development
6. Testing
7. Commercialisation

The most detailed model was Earle's which had eight stages and activities in each step (Earle, 1971). Emphasis was placed on the initial stages of the process providing a series of GO/NO GO evaluations and opportunities for the early rejection of ideas, concepts or prototypes before large-scale production and heavy financial commitment. Considerable attention was also given to market surveys, and the planning and execution of the product launch.

In 1983 Cooper produced a seven stage new product development process model for industrial products. A much stronger market orientation was proposed than in previous models. A summary of his process model is provided in Exhibit 2.3.

Exhibit 2.3: Industrial New Product Development Process

Stage		Activities	Evaluation for Go/No Go Decision
1.	Idea	Idea Generation	Initial Screening
2.	Preliminary Assessment	Preliminary Technical Assessment Preliminary Market Assessment	Preliminary Evaluation
3.	Concept	Concept Identification Market Study Concept Generation (Technical) Concept Test Market Study	Concept Evaluation
4.	Development	Product Development Engineering, Design and Prototypes Development of Marketing Plan	Evaluation
5.	Testing	Prototype Testing In-House Prototype Test with Customers	Evaluation
6.	Trial	Finalisation of Design Trial Production Finalisation of Marketing Plan Test Market	Pre-commercial Business Analysis
7.	Launch	Full Production Market Launch	Post Launch Evaluation and Control

Source: Cooper, 1983.

As with Earle's model this model provided opportunities for screening of ideas, market assessment and testing of product concepts and prototypes before major financial commitment to the product. Both models utilised testing at the prototype stage. In Earle's model for consumer products consumer tests were included while in Cooper's model industrial customers were used to test prototype industrial products.

The emphasis placed on the different stages in the new product development process depends upon whether the final product is intended for consumer or industrial markets (Booz-Allen and Hamilton, 1982). More time is spent on the development of industrial products, whilst for consumer products there is more emphasis on early market exploration and on concept testing (Booz-Allen and Hamilton, 1982; Feldman and Page, 1984). The failure rates of consumer products are higher than for industrial products because business marketers usually have fewer customers and understand their needs better, though studies show that 30-40% of industrial products still fail (Haas, 1992). It was found that new product development success was related to the use of detailed market research, the use of an initial screening process and a preliminary market assessment (Cooper and Kleinschmidt, 1986; Wind and Mahajan, 1988; Pavia, 1991; Mahajan and Wind, 1992).

In practice, however, few companies built new product development into corporate strategy plans, little use was made of sophisticated quantitative analytical techniques and there was no consistent systematic approach to new product development in use (Feldman and Page, 1984; Cooper and Kleinschmidt, 1986; Mahajan and Wind, 1992; Kerr, 1994). Mahajan and Wind (1992) recommended that new product development models need to be simplified to attract companies to use them.

A third generation of new product development processes has been proposed to speed up new product development (Cooper, 1994). This can be done by overlapping "stages", incorporating conditional GO decisions and encouraging prioritising of projects in the portfolio. Such a process is flexible but increases the risk of making mistakes and is potentially more complex. This has been termed the "stage-gate" system (Cooper, 1994; O'Connor, 1994).

O'Connor (1994) provided guidelines for implementing the stage-gate process in order to reduce time spent on new product development. He suggested that quality and timeliness of the process still determined success but customisation of the number of stages is essential for the process to be effective.

2.6 The Developer/Adopter Relationship in Industrial Product Development

Slow adoption of innovative new products has been attributed in part to failure of developers to understand the necessary inter-organisational relationship with the adopting companies (More, 1984; More, 1986; Frambach, 1993). There are models for both the new product adoption process and for the new product development process but little research has been done to provide frameworks to link the two processes. Research has been done on user initiated product innovations (Foxall, 1989) and users have been involved in new product development (Herstatt and von Hippel, 1992; Ciccantelli and Magidson, 1993; Bonaccorsi and Lipparini, 1994). Relationship marketing has developed over the past two decades and has led to a greater understanding of how companies interact (Ford, 1990). Product development networks have been studied and these have provided insights into the adopter/developer relationships (Hakansson, 1982).

More (1986) identified a set of generic structural and process characteristics for management decision making in organisations for both the development and the adoption of new industrial products or technologies. Three subprocesses were defined; development, adoption and interfacing subprocesses and nine generic stages. The nine stages in the development and adoption subprocesses are shown in Exhibit 2.4. They were not intended just to be serial, they could be iterative and/or simultaneous and need not necessarily take place at the same time in the developing and adopting organisations. The interfacing subprocess described the relationship between the developer and adopter. It involved the movement/exchange of both information and resources between the developer and adopter organisations and related to the way in which each organisation tried to manage the changing risks and outcomes through negotiation during the development/adoption process.

Exhibit 2.4: Generic Stages in Developer/Adopter Framework

Developer Subprocess	Stage	Adopter Subprocess
Analysis and Definition		***Analysis and Definition***
Need and strategic rationale	Problem Recognition	Need and strategic rationale
Needs, payoffs and risks	Need Analysis	Needs, payoffs and risks
Alternative product performance dimensions and physical characteristics for different market segments	Product Concept	Required performance dimensions and physical characteristics of the product
Choice and linkage of alternative physical technologies for product concept	Technology Choice	Choice and linkage of alternative physical technologies-in-use for product concept
Financial viability of developing alternative of technologies/product/market scenarios	Financial Analysis	Financial viability of adopting alternative of technologies/products
Translation of technologies and product concept into physical products for target market segments	Product Design	Required physical and performance attributes of the desired product
Planning of production process, sourcing and logistics to produce product units	Production Sourcing	Alternative product/technology suppliers and sourcing search
Commitment and Implementation		***Commitment and Implementation***
Commitment of financial and human resources to produce and market product units	Unit Commitment	Commitment of financial resources to purchase
Testing of customer process implementation and integration of use of technology/product	Use Implementation	Process implementation and integration of new technology/product

Source: More, 1986.

In a truly proactive adopter/developer relationship both the adopter and the developer firstly recognise that there is a problem out of which arises a need. The developer then has to develop product concepts from an assessment of the adopters' requirements for the product. Both developer and adopter assess their technologies and carry out a financial analysis for development and use of the product. The developer then designs the product specifications to the adopter's required performance attributes before production. The adopter examines alternatives before a purchasing commitment is made. Both the adopter and the developer assess the adopter's process implementation of the product. A matrix can be built up with one dimension representing the adopter subprocess and the other dimension the developer subprocess. This matrix grid allows for the developer and adopter stages to be plotted when they occur in relation to each other, even when the stages are passed through at different times. In this way the framework allows for a multiplicity of developer/adopter relationships to be plotted so enabling the planning of strategic relationships by both developer and adopter in order to reduce risks and increase positive outcomes.

2.7 Application of New Product Adoption and Product Development Processes to the Foodservice Industry

There are no models to illustrate the new product adoption process by foodservice. Purchasing has been approached from product knowledge, procedural and economic perspectives (Fuller, 1981; Cracknell at al., 1983; Fuller et al., 1985; Kotschevar, 1987; Kivela, 1989; Keister, 1990; Davis and Stone, 1991; Kinton et al., 1992).

2.7.1 Buying Behaviour in the Foodservice Industry

Purchasing by the larger foodservice organisations has been shown to be carried out by specialised purchasing departments (Riegel and Reid, 1990). In the majority of these firms, purchasing departments had the primary responsibility for forecasting product needs. Purchasing was seen increasingly as an integral part of corporate strategy as well as having a cost and quality control function. Hotels were less likely to engage in corporate purchasing than other types of foodservice operations. Two-thirds of the firms surveyed used formal written specifications but hotels were the least likely to use them. One half of the purchasing departments made all food purchasing decisions, but were less likely to be involved in recipe development or menu development (Riegel and Reid, 1988).

2.7.2 Product Development in the Foodservice Industry

There are two Product Development Processes working in tandem or sometimes in sequence in the foodservice industry. There is the supplier's product development process which follows the standard pattern for the Industrial Product Development Process, with a strong emphasis on research and development. Some of these processes, specifically designed for the development of new food products, have been described by Meyer (1984) and McIlveen (1994). The other product development process is carried out within the foodservice organisation. New dishes are constantly needed for foodservice menus and so new product development in foodservice is a major part of menu planning.

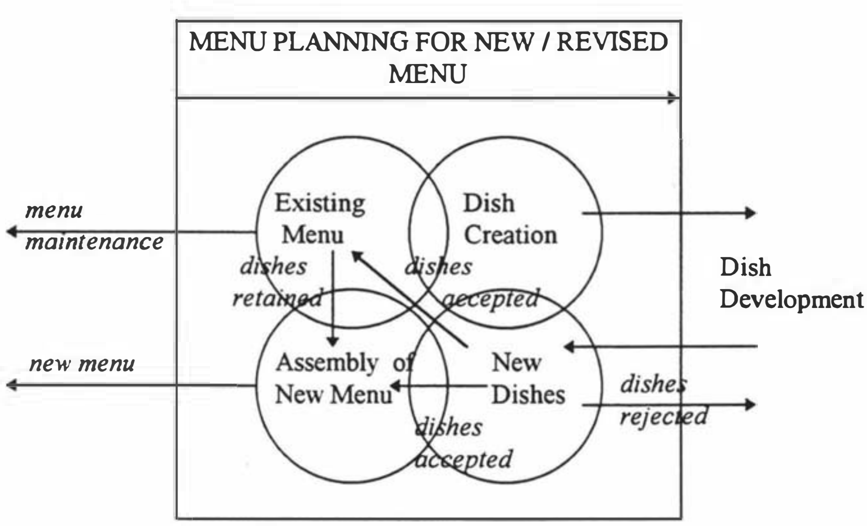
Menu planning as a total concept has been described by many authors (Cracknell et al., 1983; Eckstein, 1983; Fuller et al., 1985; Kotschevar, 1987; Kinton et al., 1992; Kivela, 1994). It has been viewed largely from five major perspectives; creative, nutritional, marketing, economic and logistical. The foodservice product involves both the dishes offered and the service delivery of those dishes in the dining environment. New product development for services differs in key ways from new product development for other types of products because services are intangible, simultaneous, heterogeneous and perishable (Easingwood, 1986). Complete service packages cannot be examined before purchase, frequently they are produced and served at the same time, quality depends on the performance of the provider of the service and they often cannot be stored.

The small number of models of the new product development process which have concentrated on the tangible part of the foodservice product, the physical menu items, have been for large companies including restaurant chains (Balascio, 1986; Feltenstein, 1986) and in "flight catering" (Jones, 1995). Most new product development processes used by foodservice operations have focussed on product adaptations built on existing knowledge and copying other firms, and have not been based upon formal internal research and development (Scheuing and Johnson, 1989; Wan and Jones, 1993; Jones, 1995). Further there is no model of menu planning which combines the new product development perspective with a new product adoption schema.

2.8 Proposed Model for New Beef Product Adoption by Hotels and Motels

Firstly, an overall model of the Product Adoption Process was designed and then each stage in the process was studied in detail. The adopters in this process were the menu planning decision makers, which included chefs, managers, owners and purchasing officers. The central activity in the product adoption process is menu planning and before considering the stages it should be outlined. In menu planning for a new or revised menu, there is usually an existing menu, ideas for the creation of new dishes for the New Menu are generated, then the new dishes are developed before final assembly of the New Menu from a combination of new and existing dishes. This is shown in Figure 2.1.

Figure 2.1: Menu Planning for New/Revised Menu



2.8.1 Stages in the New Beef Product Adoption Process for Hotels and Motels

This model was based upon the work of Rogers (1962, 1983) and Martilla (1971).

The hypothesis was that there were three stages in the new beef product adoption process used by the hotel and motel foodservice operations:

Awareness and Interest;

Evaluation and Trial;

Adoption (including post-purchase evaluation).

The three stages were chosen because for foodservice operations *Awareness and Interest*, and *Evaluation and Trial* may be difficult to separate into more than two stages. For menu planning decision makers to become interested in new products there must be either a need or a problem to solve and so interest in, and awareness of new products may be inextricably linked. New dishes may need to be created or replacement ingredients/products found for existing dishes and, when recipes are tested, evaluation and trial of new ingredients/products may take place at the same time.

The following sections set out the factors involved in each stage of the proposed new beef product adoption model.

2.8.2 Awareness and Interest

In this stage, the supplier attempts to interest the menu planning decision maker in a new type of beef product. The supplier is providing subjective information about the product, so that the menu planning decision makers can assess the product benefits and risks in relation to their own needs. They develop attitudes towards the product which in turn affect their intentions towards the product, in terms of whether they will try it.

There are three action parts to this stage; product information provision, movement of information through information sources, and relating of the information to the menu planning decision makers' needs. If suppliers wish to use this stage in order to develop technical product concepts they must understand the background factors affecting the menu planning decision makers' intentions towards the product which relate to the individual menu planning decision makers and their situation. The action parts and the individual and situational factors are shown in Figure 2.2.

Figure 2.2: Awareness and Interest

INDIVIDUAL FACTORS	ACTION PARTS	SITUATIONAL FACTORS
	Product Information Provision	
	Information Transfer Product Information obtained by Menu Planning Decision Makers	
Education Experience Role Orientation Professional Affiliation Expectations	**Assessment of Product Information** by Menu Planning Decision Makers	Supplier Market and Economic Periodical (timed) menu Changes Forced (continuing) Menu Changes
	PRODUCT BENEFITS	
	ATTITUDES TO THE PRODUCT	
	INTENTIONS TOWARDS THE PRODUCT	
	Supplier Collection of Information	

Information transfer from the supplier takes place through sources of information used by the menu planning decision makers including both personal and impersonal sources which may also be either commercial or non-commercial. The personal (word of mouth) sources are food processing company representatives, sales representatives of distributors, persons in other foodservice operations and persons in their own foodservice operations. Impersonal sources are product literature, trade journals, business and news magazine advertisements, trade shows and supplier promotions.

The menu planning decision makers' assessment of the product and the outcomes depend not only upon the product characteristics but also on individual factors relating to the menu planning decision makers and on the following situational factors:

* the type of supplier and the relationship with the supplier, including loyalty;
* results of menu analysis and consumer demand;
* the frequency of periodical menu changes set by management;
* the frequency of forced menu changes arising from difficulties with ingredients, suppliers, kitchen and service.

The important outcomes at this stage are menu planning decision makers' assessment of the product benefits, their resultant attitudes to the product and finally their intention to try or not to try the product.

Collection, and use of this information by the supplier can greatly assist in the product development process, particularly in the screening of ideas and in the development of product concepts.

2.8.3 Evaluation and Trial

In the evaluation and trial stage, the menu planning decision makers are presented with the product concepts by the supplier followed by prototype products for them to test in dishes and in menus. In the case of a new beef product concept, evaluation by the menu planning decision makers will provide the supplier with feedback on the product characteristics and attributes. Similarly the menu planning decision makers will have the opportunity to influence the further development of the product to meet their needs. The action parts and the individual and situational factors of this stage are shown in Figure 2.3.

The first stage in the planning of new dishes was expected to be the generation of ideas, followed by initial screening, then recipe formulation and the selection of ingredients.

Figure 2.3: Evaluation and Trial

INDIVIDUAL FACTORS	ACTION PARTS	SITUATIONAL FACTORS
	Present Product Concepts	
	Assessment of Product Concepts by Menu Planning Decision Makers	
External Influencers - consumers Internal Influencers	PRODUCT CONCEPTS ACCEPTED OR REJECTED	Product Specific Company Specific Foodservice Operation Records of Standard Recipes
	Present Product Prototypes	
	Initial Recipe Building	
	Dish Trials	
	Evaluation of Trial Dishes	
	BUY DECISION	
	Purchase Specifications for Quantity and Quality	
	Standard Recipe Completion and Costing	

Factors affecting the selection of ingredients for recipe building were expected to include the following situational factors:

* product specific factors - product benefits, perceived risks, beef product type;
* company specific factors - size of the foodservice operation, types of foodservice outlets, whether the company is independent or part of a chain of operations, past experience of suppliers;
* availability of records of standard recipes.

If a new beef product was provided as a sample, or purchased for trial, it was expected that new dishes would be prepared for evaluation. As well as the situational factors there would be the effect of individuals:

* personnel within the operation evaluating the dish(es);
* consumers asked to evaluate the dish(es).

A make or buy decision may be made at this stage or the process repeated if the results are unsatisfactory. Following the decision to buy the product, purchase specifications have to be decided upon and, when used, standard recipes completed and costed.

2.8.4 Adoption - including Post-purchase Evaluation

The adoption stage includes the final testing of the ingredient/product in the dish and then the dish in the menu. It also has to include post-purchase evaluation and the outcome is to continue or to stop purchase.

If more than one dish has to be tested, then there may be a dish comparison stage. This will result in adoption or rejection of dishes. Acceptable dishes will then be assimilated into the existing menu or compiled into a new one. In the new menu situation there may be more changes to ingredient purchasing, not only in kind but also in quantity, so the suppliers may be contacted formally for proposals to supply those ingredients. This may be done before the standard recipes, purchasing specifications and suppliers are finalised. The action parts and the individual and situational factors for this stage are shown in Figure 2.4.

The company specific factors are size of the foodservice operation, types of foodservice outlets, degree of centralisation (independent of in a chain), past experience of suppliers. The product specific factors are the same as in the previous stage - product benefits, perceived risks, type of product.

The buying centre interactions take place principally between:

deciders and influencers;

buyers, who have the responsibility in the latter stages of the buying process, and other members of the buying centre including gatekeepers, primary deciders, influencers and users.

In addition it was expected that once the new dish or menu is in place post-purchase evaluation in terms of performance feedback about the product would continue.

Indeed feedback on performance to suppliers may also be necessary to ensure that the product specifications continue to be met.

Figure 2.4: Adoption

INDIVIDUAL FACTORS	ACTION PARTS	SITUATIONAL FACTORS
	Initial Recipe Building and Ingredient Selection	
	Dish Creation for the Menu	
Buying Centre Interactions	**Suppliers Screened and Selected**	Company Specific
	Purchasing Specifications Finalised	Product Specific
	Suppliers Finalised	
	Standard Recipes Finalised	
	Purchase Orders	
	Assembly of New Menu	
	New Menu Introduced	
	Post-introduction Analysis	

2.9 Factors Affecting the Adoption Of New Beef Products

From a study of the adoption process, certain factors were identified as important and the following hypotheses were developed:

H1 Hotel and motel foodservice adoption behaviour for new beef products is a function of the characteristics of the supplier, the product, the company, and the company's menu planning decision makers.

H2 The relative importance of the product and supplier attributes will vary across the three types of purchase situation for: new raw beef products; new prepared ready-to-cook beef products; and new pre-cooked beef products.

H3 Menu planning decision makers tend to stay with their existing suppliers of beef products as long as there are no compelling reasons to change.

H4 Menu planning decision makers in deciding to try or purchase a new beef product consider cost, quality, the need to save time, and the need to release labour and equipment for more value-added purposes.

H5 Menu planning decision makers are more reluctant to trial and purchase a new beef product the higher they perceive the risk.

H6 Menu planning decision makers with the most advanced training and widest experience are the most likely to take risks in trying and purchasing new beef products.

H7 Menu planning decision makers with the most advanced training and widest experience are more likely to be innovators or early adopters of new beef products.

H8 Menu planning decision makers most involved in professional activities are more likely to be innovators or early adopters of new beef products.

CHAPTER 3
RESEARCH METHODS FOR NEW PRODUCT DEVELOPMENT AND ADOPTION

A review of the literature enabled research methods for testing the new beef product adoption model to be chosen.

The proposed model for the new beef product adoption process comprised three stages: *Awareness and Interest; Evaluation and Trial*; *Adoption.* It was tested 'in vivo'. The menu planning decision makers were taken through the processes of the model with the aid of a new beef product development project undertaken by two meat companies.

The product development process included all the early stages up to the trialing of the product prototypes. Seventy-four new product ideas were generated and then reduced in a multi-stage screening process. The five product ideas remaining represented the three major types of beef products; raw, prepared ready-to-cook and pre-cooked. Product concepts were developed and evaluated. The two products remaining, tender beef in thin slices and the Fricadelle, were developed using standard food product design methods and the final product prototypes were evaluated by both menu planning decision makers and consumers.

For the product adoption study, three surveys were carried out to research the stages being used by the menu planning decision makers from when they were introduced to the product concepts to when they finally trialled the prototype product. In the first survey, they evaluated the five product concepts and, in the second survey, they described the stages they passed through in their adoption of new beef products, as well as their menu planning, product evaluation and purchasing practices. In the final survey, they tested the two product prototypes and their actual evaluation and product adoption practices were studied.

As this was a new project, it was necessary to carry out exploratory research on the behaviour and attitudes of menu planning decision makers, suppliers and consumers in order to collect the essential basic marketing and technical information required for project planning.

3.1 Choice of Research Methods for Testing the Model

For the purposes of this study comparison was made of *ex post facto* and *in vivo* methods and the problems of data gathering for industrial market research were considered. Stages to be used in the industrial market research process were selected and research techniques were reviewed and chosen for use in testing of the new beef product adoption model. Methods for use in the different stages of the new product development process were also selected.

3.1.1 *In Vivo* vs *Ex Post Facto* Research

For much of the research in industrial marketing on new product adoption and buying behaviour three major methods of data gathering have been used: *ex post facto* (Wind, 1970; Martilla, 1971; Peters and Venkatesan, 1973); 'management or buying games' (Cardozo and Cagley, 1971; O'Neal et al., 1973; Lambert et al., 1977), and; purchasing scenarios (Lehmann and O'Shaughnessy, 1974; Hakansson and Wootz, 1975; Jackson et al., 1984; Puto et al., 1985).

Ex post facto research has involved collecting data from company records and personnel recall of past purchases while 'management/buying' games and purchasing scenarios have depended upon the use of contrived hypothetical purchasing situations.

In contrast, research into consumer buying behaviour has included; objective tests involving physical measurements and/or rating of the sensory characteristics of the products (Drozdenko and Weinstein, 1986), simulated shopping mall systems (Silk and Urban, 1978; Crawford, 1986; Watkins, 1986; Greenwald and Ottenfeld, 1989), and simulated restaurant settings to provide product testing conditions closer to 'real life' (Reeve et al., 1994) all of which are *in vivo* methods and less contrived than the three major methods previously described. They involve immediate contact with the new product and do not rely on company records or human recall of past purchases. *In vivo* market research was the method selected for testing the new beef product adoption model in hotels and motels in Greater Melbourne. It was anticipated that monitoring the new beef product adoption process as it took place during the development of new beef products would offer two clear advantages over the *ex post facto* research method. The respondents would be:

* working with a new beef product from concept to prototype;
* recording their actual responses at the time and not having to recall how they responded to new beef products in the past.

One buying influential, the menu planning decision maker, would be identified in each hotel/motel from a random sample to participate in the research.

3.1.2 Research for Testing New Product Industrial Buying Behaviour Models

Testing of organisational buying behaviour models has been difficult because of the problems involved in gathering sufficient statistical data which represent a broad range of industrial purchases (Anderson et al., 1987). The joint decision making aspect of industrial buying behaviour also requires the researcher to identify and interview all members of the buying centre (Wind, 1978; Moriarty and Bateson, 1982). A snowballing technique has been utilised to accomplish this (Ozanne and Churchill, 1971; Moriarty and Bateson, 1982) though in some cases limited resources have prevented such exhaustive sampling (Johnston and Bonoma, 1981). Anderson et al. (1987) stressed that exhaustive interviewing of all buying centre members forces researchers to "report small numbers of observations". Their strategy was to exchange the insights obtained from detail for the generality and statistical testing possible with larger samples. However, Churchill and Peter (1984) noted that the characteristics of the measures used are most important for reliability of the data, even more important than the sample size and sample characteristics.

Other methods include the identification and interviewing of 'buying influentials'

(Martilla, 1971), such as purchasing agents (Lehmann and O'Shaughnessy, 1974) and sales managers (Anderson et al., 1987), in separate studies to enable sufficient data to be collected for statistical analysis. In foodservice operations the person who makes the final decision for the inclusion of dishes in the menu in effect is discriminating between dishes and hence influences the ingredients to be purchased. This person, the menu planning decision maker, is, therefore, a buying influential and can be identified. For the purposes of this study this group of buying influentials was expected to provide sufficient data, from a large enough sample, for statistical analysis.

The typical pattern for industrial market research, which would be adopted in this study, is to carry out exploratory studies to formulate the problem and then to embark upon major surveys following a planned sequence of stages (West and Earle, 1987; Green et al., 1988; Aaker and Day, 1990; Webb, 1992).

Exploratory studies, involving the collection of data from both primary and secondary sources, are needed to identify problems and/or areas of need. This is applicable both to industrial market research (Luck et al., 1982; Green et al., 1988) and to new product development (Earle, 1971; Cooper, 1983).

3.1.3 The Product Development Process and Links with New Product Adoption

Suppliers to the foodservice industry need to take into consideration two product development processes, their own and that of the foodservice company. The latter includes dish development which may also involve new product adoption.

The supplier's new product development process involves similar market research activities to those of the new product adoption process. Links between the two processes are particularly notable at the concept evaluation and prototype trial stages. At the concept evaluation stage sufficient feedback from the foodservice company is necessary in order for the supplier to define the essential product characteristics for development of an optimal prototype. The prototype then has to be refined, following testing by the foodservice company and development of its place in the menu.

* Idea Generation, Screening and Design in Product Development

Idea generation may be conducted using either analytical techniques which require systematic application to build ideas or non-analytical techniques which provide opportunities for greater creativity. Analytical techniques include morphological analysis, attribute listing, heuristic ideation, technical forecasting and gap analysis (Twiss, 1986). Non-analytical techniques, which have been well-developed and applied successfully, include brainstorming (Osborn, 1963), the nominal group technique (Van de Ven and Delbecq, 1974; Claxton et al., 1980), synectics (Gordon, 1961) and lateral thinking (de Bono, 1971). The latter were selected for this study because creative ideas were required for new beef products in a market where beef is already well established.

Screening methods have been reviewed by Rochford (1991) who reported that either a two stage or a multi-stage process is usually recommended. Multi-stage processes have been widely documented and have included techniques ranging from the use of evaluative criteria, focus groups, technology feasibility screening, to checklist scoring methods (Meyer, 1984; Graf and Saguy, 1991; Haas, 1992). Multi-stage screening has the advantage of utilising the cheaper screening methods first on the large number of ideas and then using the more costly screening processes later and so this approach was chosen.

Product design may be done systematically utilising mixture experiments and fractional factorial experiments (Milliken and Johnson, 1984; Mullen and Ennis, 1985; Johnson and Milliken, 1989; Cornell, 1990a; Cornell, 1990b; Dziezak, 1990; Schonkopf et al., 1996) which enable the optimal formulation to be identified without the need of large numbers of experimental samples (Cochran and Cox, 1957; Box et al., 1978). Sensory techniques have been used in product development and are well documented in the literature (Amerine et al., 1965; Moskowitz, 1983; Jellinek, 1985; Moskowitz, 1985; Stone and Sidel, 1985; O'Mahony, 1986; Meilgaard et al., 1991). A combination of mixture experiments, fractional factorial experiments and sensory techniques was, therefore, chosen for the product design in this study.

*** Techniques involved in both New Product Development and New Product Adoption: Product Evaluation and Trials**

Product concept evaluation has been well documented for consumer research though less so for industrial products (Cooper, 1983; Cooper and Kleinschmidt, 1986; Mahajan and Wind, 1992). Herstatt and von Hippel (1992) applied the 'lead user method' to industrial product concept development. They identified lead users in the market and developed the product concept jointly between the lead users and the manufacturer. Concept evaluation involved selecting persons to interview in the organisations who were both buyers and users. They were asked to review the strengths and weaknesses of the product concept, rate the product benefits, to state their preference over existing commercially available solutions, to indicate potential applications and usage of the product, their willingness to buy and the price they would be prepared to pay (Crawford, 1983; Urban et al., 1987; Herstatt and von Hippel, 1992). In foodservice operations menu planning decision makers may fulfil the functions of both buyer and user.

It was, therefore, decided to use the concept evaluation stage to more clearly define product characteristics for development of the prototype and to obtain an estimate of the number of foodservice operations which would be prepared to try the prototype. This would be done by interviewing the menu planning decision makers.

Product trials need to be conducted under conditions which match as closely as possible those in which the product will be used and which enable the potential purchaser to make judgments and purchase decisions (Lehmann, 1979; Crawford, 1983; Urban et al., 1987). This is best achieved for foodservice products during prototype trials held in the foodservice operation's own premises.

For consumer trials, potential customers are asked for their reaction to the product and their purchase intention (Lehmann, 1979). Although purchase intention has been criticised, it is valid in the identification of non-purchasers (Tauber, 1973; Taylor et al., 1975). Before prototype trials in the foodservice operations, therefore, it was decided to carry out consumer trials to check consumer acceptance of the product by means of a simulated dining experience (Reeve et al., 1994).

3.2 Proposed Plan for the Project

It was decided to conduct exploratory studies first, collecting data from both primary and secondary sources including in-depth interviews with menu planning decision makers and beef suppliers as well as focus groups with consumers in order to identify purchasing patterns and areas of need for new beef products. The results would then provide background information for the first stages, idea generation and screening, in the supplier's new beef product development process. Meat companies would be selected to participate in the study to provide both technical expertise and production facilities for the development of new beef products. The product development process would be coordinated with the investigation of the new beef product adoption process. The product concepts for evaluation by the menu planning decision makers would be developed with the assistance of these companies. New beef products to represent the range of acceptable products from the three new beef product categories would then be developed from the preferred concepts. These new products would be subjected to consumer trials, utilising a simulated dining experience, before prototype trials by the menu planning decision makers.

The three major stages in the proposed new beef product adoption model would be investigated to gather data on:

* the factors affecting awareness and interest in the new beef product;
* the factors affecting the evaluation and trial stage including product concept evaluations;

* factors affecting adoption including post-purchase evaluation;
* factors affecting decision making during the new beef product adoption process.

Data on the menu planning process would also be collected and attention paid to the relationship between the supplier's new product development process and the menu planning decision maker's new beef product adoption process. Gathering of data would primarily utilise in-depth interviews but self-completion questionnaires would be necessary for the prototype trials.

3.3 Selection of the Participants in the Research

The foodservice market segment was selected and a random sample of operations invited to participate in the research program. One respondent, the menu planning decision maker, was nominated by each operation. Suppliers were selected to participate in the new product development process and experienced food technologists and foodservice operators were recruited to provide expertise at the idea generation, screening and product design stages.

3.3.1 Foodservice Market Segment and the Menu Planning Decision Makers

With the aid of the Melbourne Telecom Yellow Pages on CD ROM and using the computer software database package dBase IV, files were created for four major categories of foodservice operations; Hotels, Motels, Cafes and Restaurants. Entries in each file were checked for consistency and, when necessary, the companies were telephoned to assess the accuracy of the data. The Hotels and Motels files were merged to form a 'Hotels/Motels' database and the Cafes and Restaurants files merged to form a 'Cafes/Restaurants' database. There were 740 unique entries for the Hotels/Motels database while the Cafes/Restaurants database had 2526 unique entries.

***	Foodservice Market Segment**

In order to select the market segment for the research project exploratory market research was carried out. For this both of the chosen market segments were divided into two strata. The Hotels/Motels segment was divided into hotels/motels with one foodservice outlet (HM1) and hotels/motels with more than one foodservice outlet (HM2). The Cafes/Restaurants segment was divided into traditional cafes and restaurants (CR1) and family restaurants (CR2). Traditional cafes and restaurants were defined as those which offered a mixed cuisine comprising Australian and international dishes (e.g. Italian, Greek). Family restaurants were defined as those establishments which either offered children's portions or provided a children's menu.

In an AMLC report (AMLC, 1992) 44% of all operations in the Cafes/Restaurants market segment were described as non-specific, that is they offered a mixed cuisine. The remaining 56% were ethnic restaurants (53%) or seafood specialists (3%). The Cafes/Restaurants market strata defined for this research, therefore, were expected to comprise almost half of the cafes and restaurants in the database.

In order to estimate the size of the market strata, operations were selected at random from each database and screened by telephone interview until at least 30 operations were identified for each stratum. The screening criteria used for both market segments were that the foodservice operation must serve main meals and the menu must include beef. Cafes and restaurants were also screened for the type of cafe/restaurant, either traditional or a family restaurant, and ethnic (e.g. Asian, Eastern Mediterranean and Middle Eastern cuisines) and seafood specialists were excluded.

The final market strata for the exploratory research are as shown in Table 3.1. In the Hotels/Motels market segment 106 operations were contacted; 28% were in Group HM1, 33% were in Group HM2 and the remaining 49% either did not offer a full meals service, were temporarily closed for renovations or were no longer in business. In the Cafes/Restaurants market segment, 152 were contacted; 21% were in Group CR1, 21% in Group CR2 and the remaining 58% were either ethnic restaurants or no longer in business.

For the exploratory market research 33 operations were selected across the four market strata by a strictly random computer sampling process. From the results of this research the Hotels/Motels market segment was identified as the most receptive for the introduction of new beef products.

Table 3.1: Market Strata Used in the Exploratory Market Research

Stratum Identification Code	Description of Stratum	Total No. Operations in the Market Segment	Proportion of Operations in the Stratum %	Estimated Stratum Size
HM1	Hotels and Motels with 1 principal foodservice outlet	740	28	207
HM2	Hotels and Motels with > 1 principal foodservice outlet	740	33	244
CR1	Traditional Cafes and Restaurants	2526	21	530
CR2	Family Restaurants	2526	21	530

* **Menu Planning Decision Makers**

For the three new beef product adoption surveys the aim was to include 80-90 hotels and motels in the sample. These were selected in the same way as for the exploratory market research starting with the hotel/motel operations already identified and continuing the random sampling until 86 operations had agreed to participate in the study. This involved contacting a total of 247 operations. The aim was not only to retain the same operations for all the surveys but also to interview the same menu planning decision makers each time. Each operation was contacted by telephone and the person responsible for the menu planning decision making was asked if he/she would be prepared to participate in the research and agree to be interviewed. As the surveys were to be conducted over a period of twelve months it was expected that there would be some attrition of participants owing to rapid turnover of chefs, who made up the majority of the menu planning decision makers, in the industry.

3.3.2 Meat Suppliers

It was necessary to recruit the assistance of meat suppliers to provide technical and production facilities for the suppliers' new beef product development process in order to offer the menu planning decision makers genuine new products from regular industry meat suppliers.

Two lists of companies were compiled with the assistance of Dr Raymond Mawson, Meat Program Manager, of the Australian Food Industry Science Centre (Afisc). One was a list of suppliers of raw products and the other suppliers of processed and pre-cooked products. The companies were then ranked according to suitability and interest in new product development. The top ranked company on each list had each participated in new product development research in conjunction with the Australian Meat Research Corporation. Both had a corporate commitment to new product development and between them they were able to produce the full range of new beef products anticipated in this study; raw beef products, prepared ready-to-cook beef products and pre-cooked beef products. These companies were approached first and readily agreed to participate in the study.

* **Company A**

Company A is a Melbourne-based corporation which has been trading since 1981. It supplies a wide range of meat and meat products to the foodservice industry and has in its client base major hotel chains, international and domestic airlines, supermarket chains, catering services and island resorts. Its new export licensed processing premises were opened in 1992.

***   Company B**

Company B is also Melbourne-based and has been trading since 1984. It produces a variety of meat products ranging from portion-controlled meat cuts to processed and pre-cooked products, which are individually quick frozen. These products are marketed to foodservice, airline catering, supermarkets for the meatcase and freezer departments, and export markets. This company has an active product development program aimed at the foodservice market.

3.3.3 Food Technology and Foodservice Researchers

Food technologists for technical feasibility screening were selected from Massey University academic staff for their expertise and extensive experience in the field of meat technology. Food technologists for checklist screening were selected for their knowledge and experience of the meat industry and included academics from Massey University and Victoria University of Technology.

The chefs for the recipe development were selected from technicians employed by the Department of Hospitality and Tourism Management at Victoria University of Technology for their experience as chefs within the foodservice industry.

3.4 Qualitative Exploratory Research with Menu Planning Decision Makers, Consumers and Suppliers as a Basis for the Project

The aim was to evaluate the utilisation of beef in Hotels, Motels, Cafes and Restaurants in Metropolitan[1] Melbourne in Australia in order to identify the most suitable market segment for the research and possible areas for product development. The utilisation of beef was studied qualitatively from the perspectives of suppliers, menu planning decision makers and consumers in order to assess the potential for new value-added beef products (Appendix 1).

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[1] Metropolitan Melbourne is also known as Greater Melbourne.

3.4.1 Review of Qualitative Research Methods

Qualitative data collection methods have been well documented for techniques including focus groups, unstructured direct interviews, projective techniques and observation (Welch, 1985; Gordon and Langmaid, 1988; Kreuger, 1988; Colwell, 1990).

Both focus groups and in-depth interviews have been used in exploratory market research for identifying consumer trends (Langer et al., 1991) and also for predicting the effects of social influence, attitudes and motivation on the acceptance of new products (Berent, 1966; Hart, 1989; Kahan, 1990; Schindler, 1992; Mitchell, 1993). Focus groups have been used; to provide hypotheses (Cox et al., 1976; Reynolds and Johnson, 1978; McDaniel, 1979), for customer needs and motivations (Yovovich, 1991) for business to business research (Inglis, 1987; Bloom, 1989; Weinstein, 1989; Fedder, 1990) and for restaurant market research (Klein, 1989; Farkas, 1992).

The issues of validity and reliability of qualitative research have been addressed by Sykes (1990) in a comprehensive literature review in which she referred to methods of conducting qualitative research (R and D Sub-Committee on Qualitative Research, 1979). She, and others, have noted that there are no widely agreed rules (R and D Sub-Committee on Qualitative Research, 1979; Tynan and Drayton, 1988). Careful planning helps to eliminate bias (Potts, 1990) and the use of more than one method helps to validate qualitative research (Calder, 1977; Jick, 1979; Matthews and Paradise, 1988). Qualitative data require time consuming analyses involving data reduction, data display and interpretation (Alt and Brighton, 1981; Jones, 1981; Griggs, 1987; Gordon and Langmaid, 1988; Hart, 1989). Qualitative interviews should be recorded and transcribed for meaningful intonations of speech, silences, and to enable quick comparisons (Gordon and Langmaid, 1988). An "open public process" for analysis of the results is advised (Griggs, 1987).

Two market research techniques were employed to obtain data on the menu planning decision makers', suppliers' and consumers' behaviour and their attitudes towards beef. These techniques included:

* interviews with management of meat companies and a distributor;
* in-depth interviews of menu planning decision makers;
* focus groups with menu planning decision makers;
* focus groups with consumers.

3.4.2 Interviews with Management of Meat Companies and a Distributor

Also interviewed were the General Managers of three large suppliers of beef products in Melbourne, a meat wholesaler, a meat processing company and a meat products distributor. The interviews were all conducted by the author, tape recorded and subsequently transcribed. The responses were used to assist in the preparation of the questionnaires for the in-depth interviews and the focus groups with the menu planning decision makers. The interviews studied the types of beef sold to the Hotels/Motels and Cafes/Restaurants market segments, the changes which had taken place over the past ten years and the current trends in the purchasing of beef by foodservice, especially in relation to value-added products (Appendix 4).

3.4.3 Methods for In-depth Interviews and Focus Groups

The ***in-depth interviews*** involved the use of a structured questionnaire and a series of unstructured qualitative questions. Interviews were carried out on the hotel/motel/cafe/restaurant premises either in the kitchen or in the restaurant. Responses to qualitative questions were tape recorded and subsequently fully transcribed. The responses were then examined for common themes and summarised in three ways. Firstly, there were comments which were consistent across all four strata. Secondly, each market segment had several unique features and finally each stratum had some special features.

Seven ***focus groups*** were conducted in an identical manner at the Footscray Campus of Victoria University of Technology in Melbourne. The discussions took place in a room specifically set up for the purpose. A round table with comfortable seating was used and the microphone placed in the centre of the table.

The time allocated for each focus group was 2 hours. Before the discussions started refreshments were provided for the participants to meet with each other informally and to relax. Each participant was given either a \$30 meal voucher for the foodservice operation from which they were recruited or \$30 to cover expenses

All focus groups were moderated by the author. The discussions were tape recorded and fully transcribed. Analysis of the responses involved the author listening to the recordings as well as studying the transcriptions in order to identify recurring themes. Observations of participants' body language and the interpersonal reactions between participants were also taken into account when analysing the data.

3.4.4 Menu Planning Decision Makers

The ***in-depth interviews*** involved the use of a structured questionnaire and a series of unstructured qualitative questions. Key structured questions involving purchasing behaviour included value of beef purchased, forms and states of preparedness and the types of suppliers used. The importance of beef on the menu was evaluated in terms of the number of beef dishes offered in the menu and the sales of beef dishes. The qualitative questions were used to obtain insights into the menu planning decision makers' attitudes towards beef and their impressions of consumers' needs and perceptions of beef on the menu. The decision maker's own perceptions of the role of beef on the menu, in its own right, and in relation to other meats and seafood were also sought. Finally the factors taken into account when planning menus and when deciding on the forms in which to purchase beef were assessed. The complete questionnaire is shown in Appendix 5.

Before the in-depth interviews were undertaken a draft questionnaire was prepared by the author and the questions discussed with the author's supervisors and with colleagues in the Department of Hospitality and Tourism Management at Victoria

University of Technology. This draft was then modified and pre-tested by the author using menu planning decision makers in two hotels and a restaurant in Melbourne. Finally the questionnaire was carefully adjusted to allow for an interview lasting no longer than one hour for the larger operations and less for the smaller operations.

Two ***focus groups*** were conducted with 5 respondents recruited from the 33 foodservice operations which had already co-operated with the in-depth interviews. The first focus group involved three male menu planning decision makers and the second two different individuals, one male and one female. All five participants were from the Hotels/Motels market strata, two from Group HM1 and three from Group HM2.

The focus group discussion questions provided a means of cross-checking the behaviour patterns of the menu planning decision makers indicated by the responses to the structured questions in the in-depth interviews. In order to provide insights into their needs in relation to new beef products the menu planning decision makers also discussed the problems they had in their foodservice operations which might affect the way they purchase and use beef. The moderator's instructions and question guide is provided in Appendix 6.

3.4.5 Consumers

Five consumer ***focus groups*** were conducted with 31 respondents. Five were recruited from among customers of the foodservice operations and 26 by a snowball method in which consumers from a variety of occupations and suburbs who were known to eat out regularly were told about the focus groups and asked if they were interested in participating. They were encouraged to request others to apply. There were 14 males and 17 females from 15 different suburbs. The recruitment leaflet used for the foodservice operations' customers and the screening questionnaire are provided in Appendix 7A. The focus groups were arranged so that participants neither knew the moderator personally nor other members of the same focus group.

Of the five focus groups conducted, three included both males and females, one was an all-female group and one was an all-male group. All groups had 6-7 participants. A range of age groups and representatives of different types of households were included in each group. All participants ate out at least once a month, were meat eaters and ate beef.

These focus groups studied consumers' behaviour when making menu selections and their attitudes towards beef, particularly towards entrées and main courses. The groups were asked to describe their ideal red meat dish and ideal beef dish, to highlight any trends which might be taking place, and to say what changes they would like to see to the menus over the next five years. The consumers' reactions to the use of value-added beef products in the preparation of beef dishes were also sought. For the moderator's instructions and question guide see Appendix 7B.

3.5 Supplier's Product Development Process

A new beef product development process, based upon the major components of the models by Earle (1971) and Cooper (1983), was used to provide an *in vivo* method of studying the new beef product adoption process for foodservice.

3.5.1 Co-ordination of the Product Development Process

The stages in the product development process were product idea generation, product idea screening, product concept evaluation, product design, product testing and recipe development, and prototype trials. Each stage was designed to be undertaken in conjunction with the corresponding stage(s) in the new product adoption process. In product idea generation, experienced menu planning decision makers and food technologists started with the needs of menu planning decision makers and their customers. A multi-stage idea screening process for the product ideas involved menu planning decision makers, food technologists and consumers. The meat suppliers' involvement was at the final stage. An outline of the stages used in the idea generation and screening process are summarised in Exhibit 3.1.

Exhibit 3.1: Stages in the Idea Generation and Screening Process

Stage	Method		Applications
Idea Generation	Brainstorming combined with other techniques		Nominal Group Technique (to begin idea generation)
		First Ideas	
			Synectics (to expand idea generation)
		Ideas for Screening	
Screening	Preliminary Screening		Evaluative Criteria
		Rationalisation of Product Ideas	
	Focus Groups		Product Idea Development with Consumers Chefs (direct) Customers (derived)
		Insights into Consumer Views	
	Technical Feasibility		Discussions with Meat Technology Experts
		Consolidation of Product Ideas	
	Checklist Screening		Technical & Marketing Factors Checklist Screening using Food Technologists
		Idea Reduction for Final Screening	
	Company Specific Checklist Screening		Checklist Screening by Company Management
			Selection of Final Product Ideas

After the company screening stage, product concept descriptions were developed and presented to the menu planning decision makers for evaluation. The two product concepts preferred by the menu planning decision makers then entered the product design stage. Product optimisation was achieved utilising systematic, planned experiments and sensory panels. Prototype products were prepared, tested by qualified chefs, and recipes were developed ready for the prototype trials. Consumer trials were conducted in order to check acceptability of the two products before starting the final stage of prototype testing by the menu planning decision makers.

3.5.2 Product Idea Generation

Four non-analytical techniques were combined for the idea generation sessions; brainstorming, the nominal group technique, synectics and lateral thinking.

For two separate brainstorming sessions in the Food Technology Research Centre at Massey University participants were seated around a rectangular table and the session was moderated by the author. The discussion was tape-recorded and subsequently transcribed.

In the first brainstorming session there were six people, four females and two males. Their backgrounds covered the fields of food technology and catering. In a variation of the nominal group technique, the 'problem' was described at the start of the session. The participants were given four minutes to write down as many ideas as possible to solve the problem, placing each new idea on a separate slip of paper. When the time had expired each group member was asked, in strict rotation around the table, to put forward one idea, with explanations, for the group to discuss. This was continued until all the ideas written on the slips of paper had been brought forward. Brainstorming began as each idea was put forward and new ideas from other members of the group were 'sparked'. The discussion lasted 55 minutes. As the discussion progressed the ideas were listed on large sheets of white paper and displayed around the room.

The second brainstorming session was held one week after the first session with five members, two male and three female, from the same group as for the first session. For this session brainstorming with an excursion of the direct analogy type was used. The direct analogy chosen for the excursion away from the problem was "Taking/Selling Coals to Newcastle" or "How do you sell coal in a place that already has a local supply?" After the ideas for solving the direct analogy problem were generated the solutions were applied to the beef problem. Idea generation was the last stage where the real problem was, once again, addressed by brainstorming for ideas. The discussion lasted 60 minutes.

3.5.3 Product Idea Screening

A multi-stage screening process was used with qualitative methods including evaluative criteria and focus groups, and the quantitative method of checklist screening. The sequence of screening methods started with the final consumers, was followed by the menu planning decision makers then the suppliers/food processors. Three major groups of factors were applied; marketing, technical and company specific factors. At each stage in the screening process the constraints on the project were increased.

Stage 1: Preliminary Screening

Preliminary screening used marketing and technical constraints against which each idea was tested by the author. Each product idea had to fulfil consumer requirements, offer benefits for the menu planning decision maker to satisfy some of their needs, offer benefits superior to those provided by competitors' products, and provide value for money in order to be retained for further screening.

Stage 2: Focus Groups with Menu Planning Decision Makers and Consumers

The product ideas remaining were then developed using both menu planning decision makers and consumers in separate focus groups held in the Food Technology Research Centre at Massey University. The discussions lasted 60 minutes.

For the first focus group six menu planning decision makers were recruited from foodservice operations in Palmerston North and sent a list of the ideas to be discussed. The moderator's instructions and question guide is in Appendix 8A.

For the second focus group eight consumers were recruited through the Food Technology Research Centre database for consumer research. Participants were screened to ensure that they both liked beef and ate out regularly. The group was mixed with four males and four females. All participants were provided with a list of the product ideas together with the objectives for each product category. Each participant received a NZ$15 petrol voucher for attending. The moderator's instructions and question guide is in Appendix 8B.

Stage 3: Technical Feasibility

The product ideas were assessed in terms of currently available technology, based on discussions with two meat technology experts from the Department of Processing and Environmental Technology at Massey University.

Stage 4: Checklist Screening

Factors which were used for the checklist screening were selected after:

* discussions with food technology and meat technology experts;
* a library search for product descriptions, manufacturing processes and new product development procedures;
* reference to meat company information and meat distributors' catalogues;
* consideration of the major constraints which would affect the product development process.

The factors fell into two major categories: Marketing and Technical. Four food technologists were asked to score the product ideas out of 10 for each of the factors. Two of the food technologists scored all the factors, both marketing and technical while the other two scored the technical factors only. Weightings were applied to the factors according to their relative importance and the weighted scores used to rank the product ideas for each food technologist. The thirteen top ranked ideas for all the food technologists were compared to select a group for final screening. The checklist screening questionnaire together with the factor weightings is in Appendix 9.

Stage 5: Suppliers' Final Product Idea Screening

Company specific factors usually dominate the product development process from the beginning constraining the product ideas to the range of product types which are technically feasible for the company and which conform to the company's strategic plan.

For company screening the companies were selected after the ideas had been reduced to the most suitable ones for the market. Companies most able to develop the range of ideas were chosen and screening involved the application of marketing, technical and company specific factors. The ideas were reduced to five, each of which could be developed and prototype samples made by the company within the time frame and budget of the project. Briefs for the meetings with company management, the product descriptions for the raw and prepared beef product ideas together with the checklist factors and scoring sheet for the two companies are in Appendix 10.

3.5.4 Product Concept Development and Evaluation

Five product concept descriptions for the five surviving product ideas were developed with the two meat companies and then presented to the menu planning decision makers from a random sample of hotels/motels obtained from the hotels/motels database. The first of a series of three major surveys, Survey 1, *New Beef Product Concept Evaluation,* was designed for this purpose (see Section 3.6.2). From the results of this survey two product concepts were selected for development; a raw beef product and a prepared ready-to-cook beef product.

3.5.5 Product Design

*** New Raw Beef Product: Tender Beef in Thin Slices**

This product was developed in collaboration with Company A. The thin slices of raw beef were processed from topside beef. This was done initially by hand and finally by machine in order to achieve consistent thickness.

*** Prepared Ready-to-Cook New Beef Product: Fricadelle**

This product was developed in collaboration with Company B and the Afisc. The starting point was a formula from the company, based on their usual raw materials and processing methods. After preliminary exploratory experiments by the author further systematic experiments were conducted at the Afisc to obtain the optimum textural characteristics and the formulation was completed by refinement of the flavour characteristics. The prototype products were tested by sensory testing panels. For these experiments the product was prepared utilising standard kitchen equipment and frozen at -18°C before cooking for sensory testing. All samples of the product for sensory testing were cooked on electric range tops on the same 'setting' for a pre-determined length of time, turned once at a set time and served immediately without 'warm' holding.

Sensory panels for optimum texture development

All panellists, who liked to eat beef and bacon, were recruited by the Sensory Scientist from a database of volunteer Afisc staff. They were not trained sensory panellists but had taken part in sensory panels. In order to establish the basic formula for a desirable texture, two sensory panel sessions were required, each involving four panels of five tasters. The first session had 13 females and 7 males and the second 14 females and 6 males. For each sensory panel session, the panellists were seated in individual panel booths and provided with two sets of three samples passed to them through a hatch from the preparation kitchen. The samples were presented, three at a time on pre-heated griddle plates in a pre-determined order, which was different for each panellist. They were briefed before each of the sessions and provided with an instruction sheet and the questionnaire. The sensory panellists used line scales with anchors at each end of the scale marking the extremes of the characteristics being assessed. They were asked to place a vertical mark on the scale which represented the 'Ideal' position, in their opinion, for the characteristic being assessed and then to place vertical marks on the same scale for each of the samples tasted identifying them with the allocated three digit random numbers (Cooper et al., 1989). The ratios of each sample characteristic to the 'Ideal' were then calculated and compared by means of 't' tests and the method of least significant difference.

Focus group and sensory panels for refinement of flavour characteristics

Once the optimum textural characteristics for the product had been achieved a focus group was convened to discuss the flavour characteristics of three alternative formulations. From the results of this focus group, a fractional factorial experiment was organised to produce five products with a range of flavours to present to a second panel for evaluation and discussion. From the results of this second session, a further fractional factorial experiment was planned and a sensory panel used to assess the six products. From this the final formulation was determined.

The focus groups and sensory panel were held at the Food Technology Department, Massey University, utilising students and staff at the University. The first focus group had 8 participants, 4 male and 4 female and the second focus group 8 participants, 4 male and 4 female, and were moderated by the author. Participants were briefed before being asked to evaluate the products individually. The flavour product characteristics were then discussed by the group. The instruction guide and panel questionnaire are provided in Appendix 11, parts 11A, 11B and 11C. Data analysis included the ideal ratios and the comments made by the group members during the discussion. Finally a sensory panel of 32 people, 16 males and 16 females, tasted six products. As for the previous sensory panels held at the Afisc the panellists were provided with two sets of three samples presented in a pre-determined order which was different for each panellist. The questionnaire was designed with the same types of scales used in the questionnaire at the Afisc but, instead of lines, numbers from 1 to 15 were used. Anchors were provided at each end of the scales for the extremes of the characteristics being tested. The first question was for overall evaluation of the product using the 9 point hedonic scale followed by scales for evaluation of the product characteristics. For each of the characteristics the first scale was provided for the Ideal to be marked and then a series of six scales were presented, one for each product. The questionnaires for screening the panel members and the sensory panel questionnaire used are in Appendix 11, parts 11D and 11E. Ideal Ratios were used as the basis for comparison of the products and 't' tests and the method of least significant difference applied. From these results the preferred product was selected.

Subsequently the preferred product and another with a different lemon flavour concentration were provided for assessment by management of Company B. The preferred product was chosen and the formula provided for production of the prototype on the company production line.

3.5.6 Product Prototype Production

* **New Raw Beef Product: Tender Beef in Thin Slices**

This was produced in the premises of Company A by Company A staff. Topside muscle was tempered to -3°C and sliced on a smallgoods slicer.

* **New Prepared Ready-to-Cook Beef Product: Fricadelle**

This was produced on the factory production line. The formula was prepared utilising standard production line equipment for mixing and grinding, forming, freezing and packaging[1].

3.5.7 Product Prototype Use - Testing and Recipe Development

Recipe development involved two chefs from the Department of Hospitality and Tourism Management at Victoria University of Technology were invited to choose

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1 For the purposes of honouring confidentiality, details of the product formulation and company production lines have not been included.

recipes, from a selection provided by the author, which they thought would be appropriate for hotel/motel foodservice operations and to test the recipes using samples of the two products. The chefs were provided with questionnaires for evaluation of both the raw product ***before use*** and for evaluation of the product ***in use*** for each of the recipes. The questionnaires had a table with a column of semantic differential scales for rating the product and an adjacent column provided for comments and reasons for the scaled response. Open ended questions for the chefs to assess the practical production and service details of the dishes were also included. The chefs discussed their assessment of the product and its performance in the recipes with the author on completion of the recipe testing session. The questionnaires used for product and recipe evaluation are provided in Appendix 12, parts 12A and 12B. Recipes finally developed for the tender beef in thin slices for use in the prototype trial are provided in Appendix 12C.

3.5.8 Product Prototype Trials

Methods for the trials of the two product prototypes enabled both the adopters, the menu planning decision makers, and their customers to evaluate the products under familiar conditions. The menu planning decision makers made up dishes and assessed the products and the dishes. Questionnaires for the product evaluations were provided for self-completion to enable the menu planning decision makers to assess the products in their own time. In the marketplace the products would be purchased by foodservice operations and incorporated into dishes to suit their menus. Customers would normally purchase the product from the menu as a main course or entrée and so a hotel bistro simulation was chosen as the best way to provide them with a typical eating experience (Reeve et al., 1994).

*** Consumer Trials: Hotel Bistro Simulations**

A simulation of a hotel bistro was set up at Victoria University of Technology in which customers could select main course dishes. For the raw beef product, the Hospitality Restaurant in the Department of Hospitality and Tourism Management was used and for the prepared ready-to-cook beef product, the Raceview Suite in the Union Cafeteria. Tables were set and the consumers were seated informally so that they could converse with each other as they would in a hotel bistro. A menu was given to each consumer with a choice of two dishes written in the same style as a typical bistro menu. The questionnaires were provided at the beginning of the meal so that the consumers could read the instructions while they were waiting to be served. The menus and questionnaires used for the consumer trials are provided in Appendix 13. Open ended questions on what the consumers liked or disliked about the products, a 9 point hedonic scale for assessment of liking of the product and 5 point 'Just Right' scales for evaluation of the product's physical and sensory characteristics were utilised (Rothman, 1990). Consumers were also asked a purchase intention question which used a five point scale; definitely would buy, probably would buy, maybe buy/maybe not buy, probably not buy, definitely not buy. Finally they were asked to indicate the price range within which they would be prepared to pay for the product.

The data were coded and entered into a spreadsheet file utilising the QPRO software package for data analysis. Methods of data analysis most suitable for these data were frequencies, cross tabulations and correlations. A summary of the scales and data analysis methods used for the sensory evaluation work is provided in Exhibit 3.2.

In the consumer trials for the tender beef in thin slices, held from 12 noon - 2 p.m. on a single day, 121 consumers took part, 61 males and 60 females. All the consumers ate beef, ate out in hotels/motels, and belonged mainly to the age groups specified by the menu planning decision makers when evaluating the product concepts, the majority being in the 20-34 years age group with substantial numbers in the 35 - 49 years and 50 - 65 years age groups. The consumers were provided with a menu from which they were asked to choose one of two dishes, teriyaki beef or beef and mushroom roulades. Both dishes were served with the same accompaniments, white rice and snow peas.

In the consumer trials for the Fricadelle there were 111 consumers, 69 males and 42 females. All these consumers ate beef and bacon, ate burgers, ate out in hotels/motels, and belonged mainly to the age groups specified by the menu planning decision makers when evaluating the product concepts, the majority being in the 20-34 years age group with substantial numbers in the under 20 years and 35 - 49 years age groups. They were provided with a menu from which they were asked to choose one of two dishes, one Fricadelle served in a salad roll with french fries or two Fricadelles served with salad and french fries.

Exhibit 3.2: Scales Used for Sensory Evaluation

Survey Purpose	Location	No. of Respondents	Scale Used	Comments/Data Analysis
Fricadelle				
Sensory Panels Initial Fonnulation	Afisc	20	semantic differential	Ideal Ratios
Sensory Panels Basic Texture	Afisc	20	semantic differential	Ideal Ratios
Focus Group Refinement of Flavour	Massey University	8	qualitative	
Sensory Panel Refinement of Flavour	Massey University	32	hedonic semantic differential	Means Ideal Ratios
Consumer Trials	Victoria University of Technology	111	hedonic 'just right' verbal rating open ended	Frequencies Frequencies Frequencies Qualitative
Consumer Trials	Hotel Bistro	28	hedonic 'just right' verbal rating open ended	Frequencies Frequencies Frequencies Qualitative
Tender Beef in Thin Slices				
Consumer Trials	Victoria University of Technology	121	hedonic 'just right' verbal rating open ended	Frequencies Frequencies Frequencies Qualitative

* Consumer Trials: Hotel Bistro Specials Menu

The prepared ready-to-cook product, the Fricadelle, was also offered on the 'Specials' menu in the Plough Hotel Bistro, Footscray. Customers of the hotel bistro chose the dish, "Fricadelle Beef and Bacon Patty", prepared with the Fricadelle, from the 'Specials' menu. Choice of the Fricadelle dish was entirely voluntary. The choice offered by the 'Specials' menu is provided in Appendix 14A. The questionnaire was given to the customer at the time of purchase of the dish and collected after the dish had been consumed. Over 150 dishes containing the Fricadelle were consumed and 28 questionnaires were completed. A condensed form of the questionnaire used for the consumer trial held in the simulated hotel bistro was used so that the consumer trials could be compared. The questionnaire used at the Plough Hotel for the consumer trials is provided in Appendix 14B.

* Menu Planning Decision Maker Trials

This was carried out using menu planning decision makers from the same random sample of hotels and motels which had already participated in the product concept evaluation stage. The third of the three major surveys was designed for this purpose (see Section 3.6.4).

3.6 Study on the New Beef Product Adoption Process

Three surveys were designed to collect data for the *in vivo* study of the new beef product adoption model. Methods for collection of data were selected and both quantitative and qualitative questions utilised.

3.6.1 General Survey Methods

For *quantitative data collection* methods may include telephone interviews, questionnaires and structured direct interviews (Green et al., 1988; Webb, 1992). Questionnaire design requires careful, concise construction of questions, in a logical sequence (Hague, 1985; Hague, 1987; O'Brien, 1987; Gendall and Hoek, 1990; Churchill, 1991). Often quantitative data need to be explained more fully and qualitative responses can be used to qualify/amplify them. At other times, when other related surveys are planned to follow, qualitative responses give insights into the types of questions and alternative responses which should be included. Open ended questions enable suggestions and comments to be made or qualifications of answers to preceding questions as, for example, in the case of liking a product. For lengthy questionnaires and those which include qualitative questions the preferred method is the in-depth interview (Churchill, 1991).

*** Quantitative Questions used in Surveys 1, 2 and 3**

The data were collected by means of a combination of open ended, multiple choice and rating scale questions. Question types which were used included monadic response, rating scales including the semantic differential scale, direct judgement rating scale, direct judgement constant sum and the direct judgement hedonic scale. Verbal multiple choice and verbal rating scales were also used.

Quantitative questions were needed for rating product concepts and product prototypes in order to provide a means of differentiating between the most suitable product concepts for development and later between the two product prototypes. The scales chosen had to be easy to understand and also easy to complete. The number of divisions on the scale, therefore, were critical; too many divisions and the questions would take too long to complete, too few divisions and the differences between the product concepts or prototypes could be masked. Other questions, where comparisons would not be made, could utilise different scales. For example the Likert scale enables a large number of questions to be answered quickly by simply asking for agreement or disagreement with a statement about the product while the semantic differential scale provides anchors at the ends of the scale with division between them but no intermediate descriptors.

The semantic differential scale with five divisions was used in the three surveys for rating the product benefits, perceived risks, expected demand for a product, interest in trying a product, frequency of involvement and degree of influence of personnel. The 'Just Right' semantic differential scale used had five divisions with extremes of the characteristics at each end of the scale and the centre point labelled as 'just right'. This scale was used in the consumer trials and for evaluation of the physical and sensory characteristics of the product prototypes. Another semantic differential scale with 10 divisions was used for the assessment of the product concepts in terms of the degree of value added to the products.

The five point direct judgement rating scale was used for frequency of use questions and for questions requiring the respondents to specify the number of ingredients used. It was also used in the consumer trials for the price consumers would be prepared to pay for the dishes they had tried. The scale was used to provide alternative responses with predetermined boundaries. For sensory evaluation the 9 point direct judgement hedonic scale provided a means of assessing liking of a product with extremes of liking and disliking at each end and a full set of descriptors for each point on the scale from 1 - 9. This scale was used by the sensory panels during product development, by the consumers in the consumer trials and by the menu planning decision makers for product prototype trials. The direct judgement constant sum scale in which scores were allocated to five product benefits to give a total of 100 points was used to enable the respondents to weight the relative importance of the five most important product benefits which they had previously nominated. Verbal multiple choice questions were used when the alternative responses to a question needed to be defined. These questions were used to determine: what was done; how it was done; the frequency with which it was done; who was involved; for which meal periods; for what age groups; for which gender; for what type of customer; length of product life cycle; degree of innovation; what else; what next; qualifications of the menu planning decision makers, and; the form in which the product would be purchased. In these questions the number of choices varied depending upon the range possible.

The verbal rating scale was used in prototype product evaluation and in the consumer trials for purchase intention.

Yes/No answers were also requested for some of the questions where qualification was not needed.

A ranking question was used where sequencing of the stages used in menu planning was required. Instructions were given for a set of cards with descriptors to be placed in the desired sequence.

Open-ended quantitative questions, in which no limits were imposed, were used: for the menu planning decision makers' qualifications and experience; for the outlets in which the products would be used, the dish types, the cooking methods, and; for questions on the post-purchase evaluation of the product prototypes.

* **Qualitative Questions**

Open-ended qualitative questions were used; at the concept evaluation stage for how products were tested and for comments, in the consumer trials for comments and at the prototype trials stage for what other information was required, for comments, and reasons for liking or disliking the product.

A grid is provided in Appendix 15 which links the question type to the actual questions used in the surveys.

* **Analysis of Data**

Methods for ***data analysis*** depend upon the type of data collected. Quantitative data exhibiting normal distributions are tested using parametric statistics (Box et al., 1978) whereas other forms of data (e.g. skewed, bimodal, linear or irregular) require non parametric statistics (Siegel, 1988). Software programs are readily available for all these data (Norusis, 1990). The data were coded and entered into a file utilising the Statistical Package for Social Sciences (SPSS) software.

Frequencies of all the responses obtained from direct judgement and semantic differential scales were checked for normal distributions before further analysis. In the majority of cases the distributions were not normal. Some were bimodal, others skewed or almost linear. Frequencies of responses utilising monadic, multiple choice and verbal rating scales were also obtained. Means could not be used and so data analysis was, therefore, limited to non-parametric statistics. Frequencies, ranks, cross tabulations and correlations for complete sets of data were the four main methods of analysis undertaken.

Responses to the qualitative questions were used to qualify the quantitative responses and provide additional background information about the new beef product adoption process.

* **Organisation of the Surveys**

Three surveys were planned. For the first two surveys, which did not require practical evaluation of prototype products, the in-depth interview was the method selected. However, for the trial of the prototype product it was necessary to provide a self-completion questionnaire so that the menu planning decision makers could choose a suitable time to prepare dishes from the two products in order to evaluate them.

The number and complexity of the questions asked in each survey had to be restricted to ensure adequate responses from the menu planning decision makers within the limited amount of time they could dedicate to the research.

Efforts were made to maintain the interest of the menu planning decision makers over the period of research:

* in Survey 1, New Beef Product Concept Evaluation, they were provided with details of the product concepts to evaluate and to choose the ones in which they were interested;
* in Survey 2, New Beef Product Adoption Stages, they were provided with

feedback on which products were 'selected' for development together with a complimentary calculator, and;

* in Survey 3, New Beef Product Evaluation and Adoption, they were provided with prototype samples of the new products to try.

3.6.2 New Beef Product Concept Evaluation: Survey 1

Five product concept descriptions were prepared for products representative of the three new beef product types, raw, prepared ready-to-cook and pre-cooked. These were then incorporated into a questionnaire. The order in which the menu planning decision makers were presented with the product concepts was raw beef products, then prepared ready-to-cook products and finally the pre-cooked product. The following groups of questions were incorporated into the questionnaire:

Product Concept Evaluation

Questions to enable respondents to:

* score the benefits and risks associated with each of the product concepts;
* score the likely demand for each of the products;
* score interest in trying each of the products;
* assess use of the products in terms of dishes, how they would be cooked and the types of customers they would attract;
* predict in which outlets dishes would be offered and for which meal periods;
* say what they liked or disliked about the products;
* score comparable products they have tried before.

Operation and Respondent Profiles

Questions to obtain details of:

* operation size, operation seating capacity;
* demographic details of the respondents;
* customer profiles.

In addition some qualitative information about the ways in which the menu planning decision makers test new products was obtained. Where possible sample menus were collected.

The questionnaire was discussed with the research supervisors and marketing experts and pre-tested by the author using four menu planning decision makers. It was adjusted to take no longer than one hour to administer, even for the largest operations. The questionnaire is provided in Appendix 16 together with showcards used by the interviewers.

The author conducted 10 interviews, 20 were undertaken by 2 interviewers from the Market Research Company, Colmar Brunton Research, and 43 by 5 interviewers from the Centre for Hospitality and Tourism Research at Victoria University of Technology. Notes used for the briefing of the interviewers are provided in Appendix 17, parts 17A and 17B. These included information about the purpose of the research, the terminology used in the questionnaire and explained the use of the showcards. Instructions were also inserted into the questionnaire to assist the interviewer. A total of 73 menu planning decision makers were interviewed.

3.6.3 New Beef Product Adoption Stages: Survey 2

This survey examined the three stages in the new beef product adoption process in the general context of menu planning and the three new beef product types, rather than in the context of specific product concepts. The approach was entirely quantitative. The following groups of questions were prepared to test the three stages in the model:

Opportunities for the Introduction of New Products

* the ways and frequency in which menus were revised;
* the numbers of new ingredients purchased.

Awareness and Interest

* frequency of use of methods of menu analysis;
* sources used for information about new products, frequency of use and influence of the sources for trying new beef products;
* suppliers used for different types of new beef products;
* any new beef products purchased within the past five years;
* the frequency with which they stayed with the same suppliers when

purchasing new beef products.

Evaluation and Trial

* benefits sought and relative importance when making decisions to try new beef products;
* personnel involved in, and influence on, dish evaluation and selection.

Adoption

* steps in menu planning used, frequency of use and the number of years the steps have been used by the respondents;
* sequence of the steps used in menu planning;
* key personnel involved in the buying centre and their role.

The questionnaire was discussed with supervisors and marketing experts and pre-tested by the author using four menu planning decision makers. It was adjusted to take no longer than one hour to administer, even for the largest operations. The survey was conducted by personal interview, the author conducting the pre-tests and the first interview. The remaining 47 interviews were undertaken by 4 interviewers from the Centre for Hospitality and Tourism Research at Victoria University of Technology. The questionnaire is provided in Appendix 18 together with showcards used by the interviewers. Notes used for briefing the interviewers are provided in Appendix 17C.

A total of 39 of the original 73 menu planning decision makers for Survey 1 agreed to participate in Survey 2 and an additional 9 respondents, who had replaced 9 of the earlier respondents in the original sample of hotels/motels, were also interviewed.

3.6.4 New Beef Product Evaluation and Adoption: Survey 3

The principal purpose of the third survey was for the menu planning decision makers to evaluate the product prototypes and to provide feedback on acceptability and product characteristics. Product performance was assessed in terms of benefits and potential risks.

The following groups of questions were prepared:

Evaluation of the Products

- assessment of the product's physical, sensory and hedonic characteristics.

Performance and Risks

- nomination of outlets, dish types, cooking methods, selling prices and customer types who would buy the dishes;
- scoring of product benefits;
- scoring of product risks.

Product Testing and Adoption

- purchase decisions;
- the next steps the menu planning decision makers would use in product adoption;
- key personnel involved in the 'buying centre' to evaluate and accept the product.

The questionnaires for the two products were discussed with supervisors and also with the chefs, from the Department of Hospitality and Tourism Management at Victoria University of Technology, who had tested the products.

Samples of the product prototypes, together with the questionnaire package, were delivered by the author and a student from the final year of the Bachelor of Business in Catering and Hotel Management course. The frozen product was transported at approximately -12°C in an insulated box containing dry ice, and the chilled product at approximately +2°C in an insulated box containing ice blocks. The questionnaire package contained a cover sheet listing the contents of the package, the two product concept descriptions, two suggested recipes for the chilled beef product and a questionnaire for each of the two prototypes (see Appendix 18). The prototype samples were delivered into the hands of the respondent in order to ensure that the correct person received them and to enable the questionnaire package to be explained. The menu planning decision makers then tried the products and completed the questionnaires at a later, convenient time. Questionnaires were collected by the author and the final year student in person to ensure that they had been fully completed by the respondents.

Of the 48 respondents from Survey 2, 34 participated in Survey 3. Thirty one of these were original respondents who had taken part in both Survey 1 and Survey 2. The remaining 3 were respondents who had taken part in Survey 2 but not Survey 1.

3.7 Coordination of the Supplier's New Beef Product Development Process and Foodservice New Beef Product Adoption Research

The sequence of the stages in the research program is shown in Figures 3.1A and 3.1B. The two major processes, the new beef product adoption by the menu planning decision makers and the new beef product development by the suppliers, are shown in terms of the stages in the processes and the relationships between them.

The importance of the developer/adopter relationship, particularly at the concept evaluation and product trial stages was tested by interlinking the new beef product adoption process with the supplier's new beef product development process. In addition the factors affecting the new beef product adoption process and the relationship between the menu planning process and new beef product adoption were investigated.

Menu planning decision makers were involved in exploratory market research, idea generation and screening, concept evaluation, recipe development and prototype trials in order to ensure that their needs were constantly monitored throughout the new beef product development process. In addition consumers were involved from the exploratory market research through idea generation and screening and at the product prototype testing stage in order to ensure that the products were acceptable before being evaluated by the menu planning decision makers.

Figure 3.1A: Research Program - Selection of Market Segment and Product Concepts for Product Development

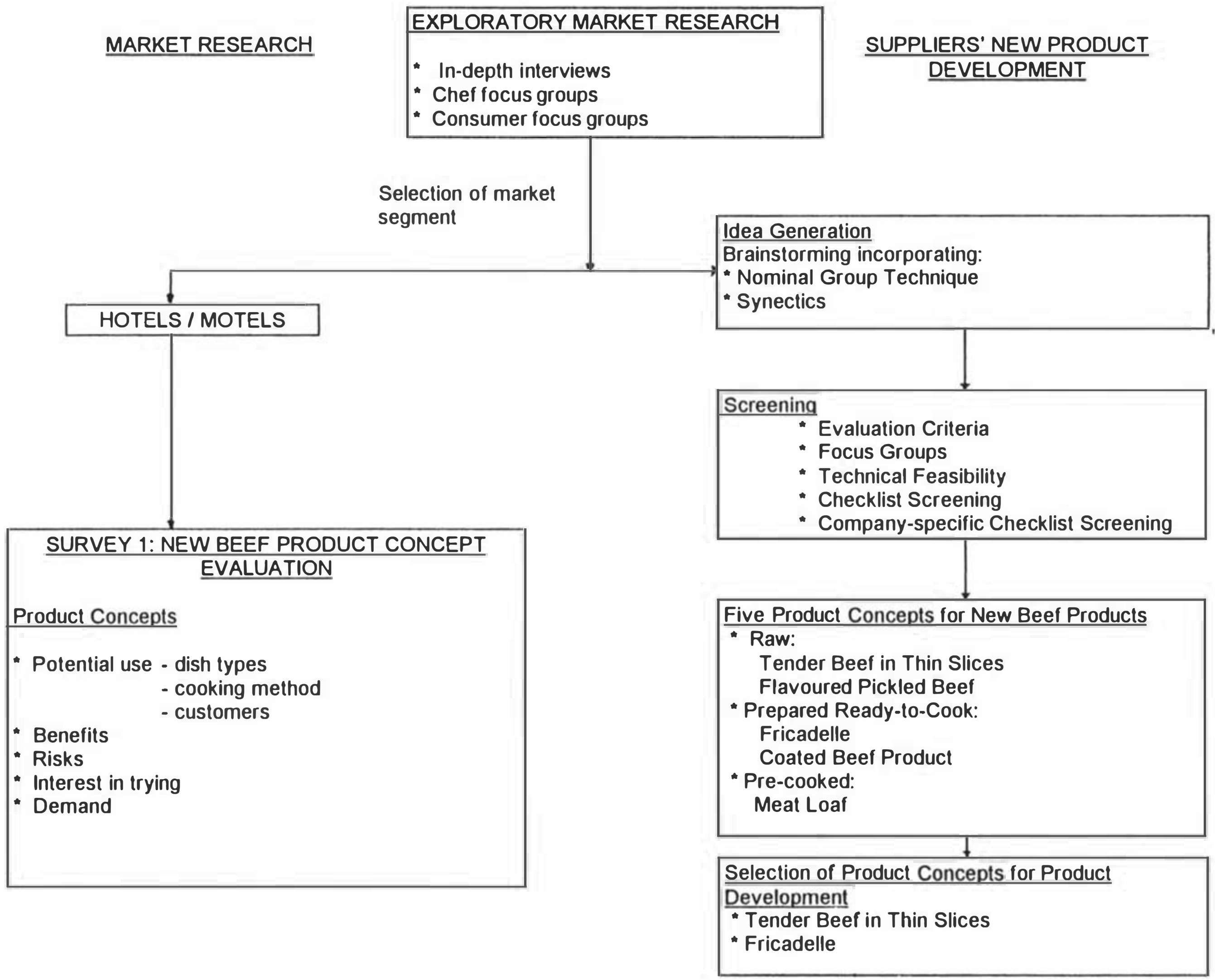
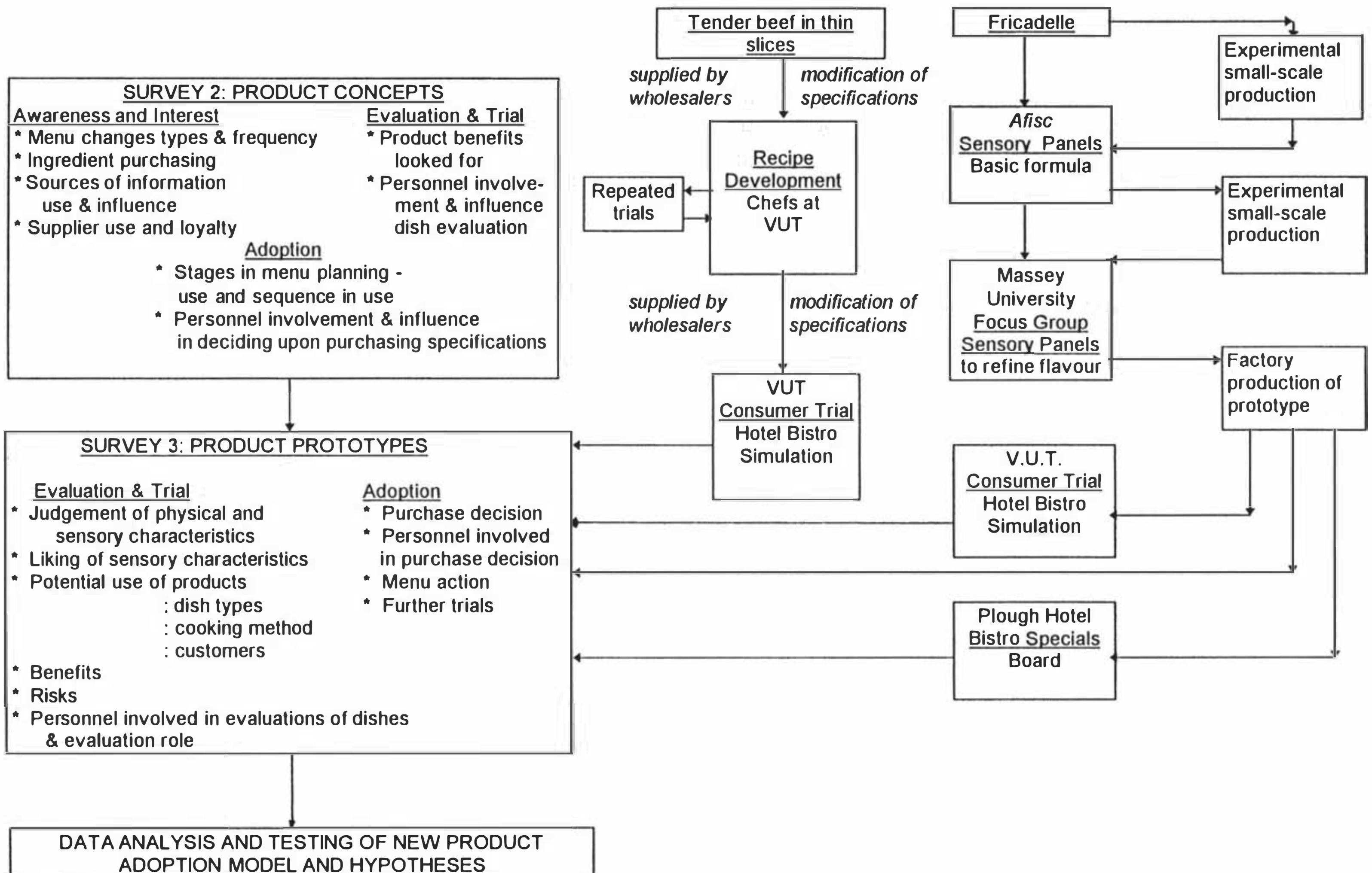


Figure 3.1B: Research Program - New Beef Product Adoption and New Product Development

NEW PRODUCT ADOPTION

SUPPLIERS' NEW PRODUCT DEVELOPMENT



The progress of menu planning decision makers through their new beef product adoption process was monitored by means of three major surveys which incorporated essential elements of the supplier's new beef product development process including product concept evaluation and prototype trials.

The theme of the three types of new beef product was continued throughout the study, both through the product concepts and prototypes representative of the three types of products and by means of questions, in Survey 2, relating to the specific types. In this way information about the menu planning decision makers' attitudes towards the different types of new beef products and an indication of their relative acceptability was obtained.

The timetable for the entire research program was planned to follow the sequence of stages and is provided in Table 3.2.

Table 3.2: Timetable for the Research Program

Research Stage	Dates
Qualitative Exploratory Market Research	
Interviews with Suppliers	4, 8 December 1992; 7 January 1993
In-depth Interviews: Menu Planning Decision Makers	15 January 1993 - 12 February 1993
Focus Groups with Menu Planning Decision Makers	17, 23 February 1993
Focus Groups with Consumers	25 February 1993; 1 - 4 March 1993
Suppliers' New Beef Product Development	
Idea Generation: Brainstorming Sessions 1 & 2	9, 14 July 1993
Screening Stage 1: Preliminary Screening	July 1993
Screening Stage 2: Focus Groups - i) Menu Planning Decision Makers & ii) Consumers	4 August 1993 8 August 1993
Screening Stage 3: Technical Feasibility Screening	10 August 1993
Screening Stage 4: Checklist Screening	September 1993
Screening Stage 5: Company Screening	9, 11 November 1993
New Beef Product Adoption Survey 1: New Beef Product Concept Evaluation	19 January - 15 April 1994
New Beef Product Adoption Survey 2: New Beef Product Adoption Stages	7 July - 22 September 1994
Suppliers' New Beef Product Development	
Product Design Prototype Testing and Recipe Development - Tender Beef in Thin Slices	May - September 1994
Product Design - Fricadelle	May - August 1994
Fricadelle: Sensory Testing at Afisc 1 & 2	3 & 17 June 1994
Fricadelle: Focus Group at Massey	29 July 1994
Fricadelle: Sensory Testing at Massey 1 & 2	2 & 4 August 1994
Prototype Production Run - Tender Beef in Thin Slices	16 September 1994
Consumer Trials Hotel Bistro Simulation for Tender Beef in Thin Slices	16 September 1994
Prototype Production Run - Fricadelle	12 October 1994
Consumer Trials - Hotel Bistro Simulation for Fricadelle	14 October 1994
Consumer Trials - Plough Hotel for Fricadelle	7 November - 9 December 1994
Prototype Trials & ***New Beef Product Adoption Survey 3***: New Beef Product Evaluation and Adoption	7 November - 14 December 1994

CHAPTER 4
PROFILE OF THE RESEARCH PARTICIPANTS

From the database of 740 hotels and motels developed for the exploratory market research a random sample of hotel/motel operations was selected. The menu planning decision makers from these operations were invited to participate in the new beef product adoption surveys.

For each of the three surveys profiles of the operations in terms of geographical location, size in relation to the number of foodservice outlets and outlet types, and of the menu planning decision makers in terms of qualifications and experience, were determined.

4.1 Participation of Hotels/Motels in the Three Product Adoption Surveys

Of the 86 hotel/motel operations agreeing to take part in the study 73 actually participated in the first survey and 31 of these participated in all three surveys giving a retention rate of 42%. The main reasons for attrition included menu planning decision makers leaving, or being away on annual or sick leave, businesses changing to new management or the operation being too busy to participate. In a small number of cases new respondents were interviewed as shown in Table 4.1.

Table 4.1: Respondents in the Three Product Adoption Surveys

Survey	Number of Respondents (Menu Planning Decision Makers) Participating		
	Original Respondents	New Respondents	Total Respondents
1	73	0	73
2	39	9	48
3	31	3	34

The hotel and motel operations participating were from all parts of the Greater

Melbourne Metropolitan area with approximately half of the sample being located in the central business district and inner suburban areas (Melway maps 1A - 2M[1]) as shown in Table 4.2.

Table 4.2: Location of Respondents

Greater Melbourne Areas*	Product Adoption Surveys		
	Survey 1 % (Number) of Operations	Survey 2 % (Number) of Operations	Survey 3 % (Number) of Operations
Outer Suburbs	49 (36)	44 (21)	50 (17)
Inner Suburbs	34 (25)	37 (18)	29 (10)
Central Business District	17 (12)	19 (9)	21 (7)
Totals	73	48	34

* Greater Melbourne includes the (03) telephone district ranging 20 km to the suburbs in the West and North, and 40 km to the suburbs in the East and South of the Melbourne General Post Office (GPO).

The hotels and motels fell into four clearly defined groups (strata), with one foodservice outlet, 2, 3-4 and $\geqslant$ 5 foodservice outlets. The relative proportions of the operations within these strata remained the same for the first and second surveys but there was a greater retention rate of the two outlet operations in the third survey. The distribution of operations across these strata is shown Table 4.3.

The 73 hotels and motels in the first survey operated 170 foodservice outlets. The greatest proportions of these outlets were bistros (27%) and public bars (24%) followed by functions/banquets (16%) and general restaurants (12%). Similar proportions of outlet types were also involved in all three surveys. A summary of the foodservice outlet types for each of the surveys is provided in Table 4.4.

[1] Melway, 1994, Greater Melbourne Street Directory, Edition 24, Melway Publishing Pty. Ltd.

Table 4.3: Distribution of Operations in the Sample According to Number of Foodservice Outlets

Stratum Number of Outlets	Operations in Each Stratum			Number of Operations with Original Respondents in Survey 3
	Survey 1 % (Number)	Survey 2 % (Number)	Survey 3 % (Number)	
1	36 (26)	31 (15)	26 (9)	8
2	31 (23)	31 (15)	41 (14)	12
3 - 4	26 (19)	29 (14)	27 (9)	9
⩾ 5	7 (5)	9 (4)	6 (2)	2
Totals	100 (73)	100 (48)	100 (34)	31

Table 4.4: Outlet Types within the Foodservice Operations

Outlet Type	Foodservice Operations			
	Survey 1 % (Number)	Survey 2 % (Number)	Survey 3 % (Number)	Number of Operations in Survey 3 with Original Respondents
Bistro	27 (45)	24 (27)	26 (20)	17
Public Bar	24 (41)	21 (24)	21 (16)	13
Functions/Banquets	16 (27)	17 (19)	19 (15)	15
General Restaurant	12 (21)	16 (18)	15 (12)	12
Room Service	7 (11)	8 (9)	6 (5)	5
Specialised Restaurant/Food Court	5 (8)	4(5)	1 (1)	1
Coffee Shop/Family Restaurant	4 (7)	4(5)	6 (5)	5
Staff Canteen	3 (5)	4 (4)	3 (2)	2
Fine Dining	3 (5)	3(3)	3(2)	2
Total Outlets	100 (170)	100 (114)	100 (78)	72
Total Operations	73	48	34	31

4.2 Profile of the Menu Planning Decision Makers

The qualifications of the menu planning decision makers are shown in Table 4.5.

Table 4.5: Qualifications of Menu Planning Decision Makers

Qualification	Region of Qualification							
	Australasia		Europe		Others		Total	
	TR (No.)	OR (No.)	TR (No.)	OR (No.)	TR (No.)	OR (No.)	TR (No.)	OR (No.)
Chef Trade Certificate	47	19	8	3	3		58	23
City & Guilds 151/152	4	4	5	1			9	5
Advanced Certificate/ Associate Diploma/ Diploma	3	2	5	3	1		10	5
Bachelor Degree	2				1		3	
Others	3	1	1		2	1	6	2
Totals	59	26	19	7	7	1	86	35

TR Total Respondents in Survey 1 N=73
Note: Some respondents had more than one qualification.
OR Original Respondents participating in Surveys 1, 2 & 3 N=31
(No.) Number of respondents with the qualification.

In Australia the chefs' qualification is the Trade Certificate in Cookery and in most other countries there is an equivalent qualification. The respondents' qualifications were all related to food and hospitality management with the exception of one chef who had a bachelors' degree in philosophy. Some of the respondents had more than one qualification. It can be seen that the majority of qualifications were obtained in Australia and the most common qualification was the Trade Certificate in Cookery. This was also the case for the 31 respondents who participated in all three surveys.

Membership of professional associations was not popular with about 70% holding no memberships. Table 4.6 summarises these data.

Table 4.6: Professional Association Membership

Professional Associations	Menu Planning Decision Makers			
	Survey 1 % (No.)	Survey 2 % (No.)	Survey 3 % (No.)	Original Respondents % (No.)
Guild of Professional Cooks	16 (12)	17 (8)	15 (5)	16 (5)
Australian Institute of Hospitality Managers formerly the Catering Institute of Australia	7 (5)	8 (4)	12 (4)	13 (4)
Tôque Blanche	7 (5)	8 (4)	6 (2)	7 (2)
Chain du Rôtisseur	3 (2)	2 (1)	3 (1)	3 (1)
Other	1 (1)	2 (1)	0 (0)	0 (0)
None	74 (54)	71 (34)	71 (24)	68 (21)
Number of Respondents	*N=73*	*N=48*	*N=34*	*N=31*

(No.) Number of respondents with the qualification.
Note: Some respondents were members of more than one association.

The respondents had a mixed range of interstate and international work experience. About 50% had never worked outside the State of Victoria. However, at the other extreme, about 15% had worked in at least 4 other states and/or countries.

The age ranges for the respondents are provided in Table 4.7. The majority of the menu planning decision makers were in the 25 - 34 years age group followed by the 35 - 44 years age group.

Of the 73 respondents 97% had worked as a Head Chef or Executive Chef. The length of experience as a Head Chef or Executive Chef ('Chefs in Charge') was varied with 50-55% having less than 10 years experience.

Table 4.7: Age Groups of Menu Planning Decision Makers

Age Group	Menu Planning Decision Makers			
	Survey 1 % (No.)	Survey 2 % (No.)	Survey 3 % (No.)	Original Respondents % (No.)
<25 years	8 (6)	10 (5)	15 (5)	13 (4)
25 - 34 years	53 (39)	56 (27)	53 (18)	55 (17)
35 - 44 years	26 (19)	21 (10)	21 (7)	19 (6)
45 - 54 years	11 (8)	10 (5)	12 (4)	13 (4)
55 - 64 years	1 (1)	2 (1)	0 (0)	0 (0)
Number of Respondents	*N=73*	*N=48*	*N=34*	*N=31*

(No.) Number of respondents in the age group.

4.3 Discussion

Over the twelve month period, January - December 1994, in which the three new beef product adoption surveys were conducted the retention rate of the original menu planning decision makers was 42%. The proportional representation of operations across Greater Melbourne and the distribution of the operations across the strata changed very little between the surveys providing the author with a consistent sample of operations. The proportions of the different outlet types within the foodservice operations of the 31 original respondents were also consistent with those of the operations in each of the three surveys.

The menu planning decision makers from the participating foodservice operations provided a homogenous sample for this study. The majority (80%) had obtained a Trade Certificate in Cookery in Australia and there were insufficient numbers in the other categories for analysis of data by category.

Thus the sample of menu planning decision makers formed a relatively homogeneous group of comparatively young 'Chefs in Charge' with the majority trained at the basic level, with broad work experience outside Victoria and only a small proportion holding membership of professional associations. These characteristics were consistent across the three surveys as were the distribution of the foodservice operations and their outlet types for the four strata.

CHAPTER 5
AWARENESS AND INTEREST IN NEW PRODUCTS

The awareness and interest of menu planning decision makers depends on the information they receive, their state of readiness to receive the information and their relationship with their suppliers. Sources of information, with the potential to create an awareness of new beef products and influence the decision to try a new beef product, were appraised by the menu planning decision makers. The role of beef in hotel and motel foodservice menus and the needs and attitudes of menu planning decision makers and consumers in relation to beef products, as well as data relating to the purchasing and use of beef in these operations, were studied.

Opportunities for the introduction of new products were assessed in terms of the frequency with which the menu planning decision makers changed their menus and the consequent numbers of new ingredients which were purchased. The methods employed for menu analysis revealed the major influences affecting menu changes and ultimately the purchasing of new ingredients. The types of suppliers used and the loyalty displayed to them were also examined in relation to the purchasing of new beef products.

These results are from Survey 2, New Beef Product Adoption Stages (see Section 3.6.3), and the qualitative research (see Section 3.4).

The ways in which menu planning decision makers become aware of, and interested in, new beef products, and the factors which affect their influence were assembled into the first stage of the new beef product adoption model.

5.1 Information Sources

In the early informal steps in menu planning, the menu planning decision makers prepare for the idea generation stage of their new product development process by taking note of new ideas and products which come to their attention. At this stage they develop an increasing awareness of new products from a variety of sources.

5.1.1 Principal Sources

In Survey 2, New Beef Product Adoption Stages, the menu planning decision makers were asked to identify the sources of information which bring new beef products to their attention (see Section 3.6.3). A summary of the sources of information used is provided in Table 5.1.

Table 5.1: Sources of Information on New Beef Products for Menu Planning Decision Makers

Source of Information	Respondents Using the Source of Information % (Number)
Sales representatives of distributors	75 (36)
Persons in own foodservice operation	58 (28)
Suppliers' promotions	58 (28)
Articles in trade journals	54 (26)
Customer suggestions	54 (26)
Business/magazine advertisements	48 (23)
Food processing company representatives	44 (21)
Trade shows	42 (20)
Persons in other foodservice operations	40 (19)
Food processing company literature	40 (19)
Professional association gatherings/meetings	27 (13)
Other	15 (7)
N*=48 Respondents Number of responses = 266	

* N = number of respondents, and is used as such in subsequent tables unless otherwise stated.

Sources of information used by the majority of the 48 respondents in this survey were sales representatives of distributors (75%), suppliers' promotions (58%) and people in their own foodservice operations (58%), articles in trade journals (54%) and customer suggestions (54%). Each of the remaining sources listed were cited by fewer than 50% of the respondents.

A summary of the frequency of use of these sources is presented in Table 5.2.

Table 5.2: Frequency of Use of Sources of Information

Sources of Information	Proportion of Times Sources Used by Respondents			
	100-61% Time % (Number)	60-41% Time % (Number)	40-21% Time % (Number)	20-0% Time % (Number)
Sales representatives of distributors	31 (15)	15 (7)	15 (7)	40 (19)
Food processing company representatives	17 (8)	6 (3)	10 (5)	67 (32)
Persons in own foodservice operation	10 (5)	19 (9)	19 (9)	52 (25)
Business/magazine advertisements	10 (5)	6 (3)	19 (9)	65 (31)
Customer suggestions	8 (4)	6 (3)	19 (9)	67 (32)
Articles in trade journals	6 (3)	13 (6)	17 (8)	65 (31)
Product literature from food processing company	4 (2)	14 (2)	9 (4)	83 (39)
Trade shows	4 (2)	10 (5)	13 (6)	73 (35)
Suppliers' promotions	2 (1)	15 (7)	23 (11)	60 (29)
Persons in other foodservice operations	2 (1)	10 (5)	10 (5)	77 (37)
Professional association meetings/gatherings	2 (1)	6 (3)	10 (5)	81 (39)
Other	8 (4)	0 (0)	4 (2)	88 (42)
N=48 Respondents				

The sources used most frequently were sales representatives of distributors (31%), food processing company representatives (17%), people from their own foodservice operations (10%) and business/magazine advertisements (10%). The first three most frequently used were all 'word of mouth' sources involving direct communication with people who had an interest in either the marketing of the new products or in the purchasing and/or use of the new products in the particular foodservice operation. It is interesting to note that the remaining two methods of personal communication were used the least; both included persons from other foodservice operations which might be in competition and so may be more reluctant to pass on information than those who work in the same foodservice operation.

The other sources used least frequently included suppliers' promotions and trade shows, both of which provide direct contact with the product. The print media filled the middle ground being used more frequently than sources involving direct contact with the product but less frequently than the major 'word of mouth' sources.

Scores for the influence that each of the sources had in persuading the menu planning decision makers to try new beef products are given in Table 5.3. The sources with the greatest influence (scores 4+5) were sales representatives of distributors (38%) followed closely by persons in their own foodservice operations (36%) and suppliers' promotions (35%). Customer suggestions (32%) and articles in trade journals (29%) were also influential. Food processing representatives were not scored so highly (16%).

The supplier had the greatest influence on the menu planning decision makers for persuading them to try new products both by means of direct communication with people through sales representatives and by providing direct contact with the product through suppliers' promotions. However, other 'word of mouth' sources were also influential including persons in the same foodservice operation and customers through their suggestions.

Table 5.3: Influence of Sources of Information

Sources of Information	Influence of Sources of Information				
	Highly Influential 5	4	3	2	Not Influential 1
Sales representatives of distributors	23 (11)	15 (7)	25 (12)	23 (11)	15 (7)
Persons in own foodservice operation	17 (8)	19 (9)	31 (15)	17 (8)	17 (8)
Suppliers' promotions	4 (2)	31 (15)	25 (12)	15 (7)	25 (12)
Customer suggestions	15 (7)	17 (8)	31 (15)	19 (9)	19 (9)
Articles in trade journals	6 (3)	23 (11)	27 (13)	25 (12)	19 (9)
Persons in other foodservice operations	6 (3)	13 (6)	31 (15)	31 (15)	19 (9)
Food processing company representatives	8 (4)	8 (4)	25 (12)	29 (14)	29 (14)
Business/magazine advertisements *	6 (3)	11 (5)	23 (11)	36 (17)	23 (11)
Food processing company literature	2 (1)	13 (6)	33 (16)	25 (12)	27 (13)
Professional association gatherings/meetings	8 (4)	6 (3)	25 (12)	17 (8)	44 (21)
Trade shows	4 (2)	10 (5)	31 (15)	21 (10)	33 (16)
Other	8(4)	2 (1)	2 (1)	0 (0)	88 (42)
N=48 Respondents * N=47 Respondents					

5.1.2 Consumers

As customer suggestions were shown to be influential sources of information it was important to study the needs and attitudes of these consumers towards beef (see Section 3.4.5). In this and subsequent sections, in order to differentiate the source of data, when consumer data were obtained from menu planning decision makers the term *customer* will be used and when obtained from the customers the term *consumer* will be used.

* **Needs**

The type of food was the most important factor for consumers when selecting where to eat. Value for money was the second most important factor. Quick service was one of the reasons for eating out after the day's work, they said that they often do not want to have to wait too long for their meal.

> **"A lot of places, everything is prepared fresh and sometimes you are waiting a half hour for two steaks and two pieces of fish."**

The main course was the most important. Entrées were not ordered by everyone and were not viewed as an essential part of the meal. Entrées were more for special occasions or cleaning the palate for the next course. When chosen, an entrée should complement the main course. Therefore, a beef entrée would not be chosen if a beef dish was selected for the main course. Consumers explained that entrées should be flavoursome, light and not heavy or filling. They did not expect beef to be served as an entrée unless it is cut into small pieces as in Asian dishes like beef satays and the Japanese dish, sukiyaki.

Consumers identified gaps in the menu where choice is limited. These included beef dishes for light beef entrées, childrens' menus and wedding function menus.

*** Attitudes towards Beef**

Their description of *the ideal red meat dish* had all the characteristics of steak. They confirmed that steak was *the ideal beef dish*. Among the desirable characteristics for steak were tenderness, leanness and the presence of only a minimal amount of fat. Steak should have no gristle and should be juicy, moist and not over-cooked.

Consumers were amenable to the use of value-added products. In three of the focus groups consumers said they would not mind being served value-added products, it would make no difference. However, across the consumer focus groups there was a variety of opinion about their use. Some consumers preferred the beef to be cut and prepared by the chef. Others showed some interest in value-added products, being prepared to try them and then make a judgment. Others were well aware that they would not know whether value-added products had been used. Several consumers said that they had purchased food knowing that value-added products had been used.

Menu planning decision makers said their customers wanted value for money and often wanted to stay with the same well tried dishes.

5.2 Basis for the Menu Planning Decision Makers' Awareness and Interest in New Beef Products

The needs, behaviour and attitudes of menu planning decision makers towards beef were also studied (see Section 3.4.4) and shown to influence their awareness and interest in new beef products.

5.2.1 Needs

Three areas of need were identified; to satisfy customers, to save time and to augment shortages of skilled staff.

* **The need to satisfy their customers in terms of both product and price**

Two major factors were important when planning menus:

- the customers and what they want;
- the cost of the raw materials.

Menu planning decision makers made an effort to find out what their customers want before they plan their menus. Some consulted with the "waiting" staff, others talked to their customers. They also tried to make sure that the cost of the raw materials did not lead to prices which were too high for the customer who wanted value for money. Each operation had a characteristic price range and so prices of the dishes offered had to fit into this range. Cost of the raw materials was a major factor in the selection of ingredients.

* **The need to save time**

In many hotels and motels there is pressure on the chefs to produce dishes quickly, especially when the peak periods are extremely busy and/or when they have to prepare for functions in addition to their normal preparation. These chefs do not have time to do intricate preparation which is time consuming, especially when they have to cope with peak rushes with minimal staff in the kitchen. Menu planning decision makers in the focus groups noted that when trying to save time they still had to be conscious of the quality of the dish, to ensure tenderness and provide value for money. Their customers wanted something quick.

The following comment highlights these problems:

> **"We're finding that the problem is that people have 20 minutes or half an hour and they want to be able to come up and place their order and get it within 3-5 minutes. That raises an enormous amount of problems as far as quality goes."**

* **The need to augment the shortage of skilled staff**

A problem encountered frequently is the inability of apprentices to cut meat without waste. Some menu planning decision makers were critical of the training and standards of chefs, not only in relation to their ability to cut meat without waste but also in their cooking methods.

5.2.2 Attitudes towards Beef

The ideal beef product was described by all menu planning decision makers in the same way. It should always be tender and not have too much fat. The two cuts most favoured were eye fillet and porterhouse. The proper ageing of the beef was essential. The following comment sums up their requirements.

> **"In terms of steak, (it) would be properly matured, tender and well trimmed."**

Beef was seen as a main course item rather than as an entrée item. There seemed to be two reasons for this attitude. In the first instance they perceived that entrée items should be "light", and beef was seen by consumers as "heavy", lasting and filling so it can fill people up when they are hungry. Secondly, if the customers choose a beef entrée it could fill them up so that they may not order a main course. They have to try to sell as many courses as possible to their customers and as people have less money to spend on eating out they are more likely to order fewer courses. More Asian style beef dishes, which use small pieces of beef, such as beef satays and chilli beef, were being used as entrées.

While some menu planning decision makers thought beef had a masculine image, steaks were not exclusively ordered by men. Some noted that women were now ordering steak more frequently instead of chicken or fish which have usually been the typical main course selections for women.

They were satisfied that beef dishes now offered on their menus sell well enough and do not need changing.

5.2.3 Behaviour in Relation to Beef

Behaviour was investigated in relation to the suppliers used, the types of beef purchased and the role which beef played in the menu (see Section 3.4.4).

*** Types of Beef Purchased**

None of the operations purchased beef in the form of whole carcases, hindquarters or forequarters. The greater proportion of the beef was purchased in the form of whole cuts. The second largest purchase was portion controlled beef, primarily by the larger operations with higher volumes of beef sales. Only a small percentage was spent on prepared or processed beef products and even less on pre-cooked beef products. A summary of the forms of beef purchased is provided in Table 5.4.

The range of beef products currently available was considered to be satisfactory. The large operations tended to use portion controlled beef with some exceptions where the chef preferred to cut his/her own meat no matter how long it took. Beef was purchased in cryovac packaging.

Table 5.4: The Forms of Beef Purchased

Hotels/Motels Market Strata	Whole cuts % (Range)	Portion control % (Range)	Prepared but not cooked %* (Range)	Prepared and pre-cooked % (Range)	Processed %** (Range)
With One Outlet #	66 (10-100)	27 (0-90)	0	1 (0-5)	6 (0-10)
With > 1 Outlet ##	58 (0-100)	33 (0-100)	2 (0-10)	1 (0-10)	6 (0-20)

KEY
\# N=7 Respondents
\## N=12 Respondents
Figures in parenthesis are the ranges of the data from which the averages were calculated
* for example, crumbed, filled, marinated beef.
** for example, cured beef, smoked beef, sausages, hamburgers.

* Beef Purchasing

Wholesale and retail butchers were the most frequently used suppliers followed by markets. Menu planning decision makers usually ordered their meat by telephone and few had written specifications. Most preferred to talk to the supplier and then the supplier would be expected to learn what was wanted and to know what to provide. There did seem to be great variability in the perceived quality standards of the suppliers, especially where ageing and the extent of trimming of the meat were concerned, which resulted in a cautious use of butchers and wholesalers. One of their problems was the difficulty of seeing exactly how much useable meat there was when a whole, untrimmed muscle was received in cryovac. It was only when the cryovac pack was opened and the meat trimmed that the yield became evident. It was the smaller operations with less buying power that had the most problems. As the menu planning decision maker from one of the larger hotels commented:

"If you use it (beef) on a big scale you don't have any problems."

*   **Role of Beef in Menus**

Beef played a major role in hotel and motel menus and several menu planning decision makers stated that they sold more beef than anything else. It was so important to some they emphasised that if beef was taken off the menu there would be complaints from their customers.

> **"If I took beef off my main courses there would be an uproar."**

Chicken was seen as the main but minor competitor. They suggested that this was caused by:

* advertising of lean beef giving it a healthier image;
* an increase in the price of chicken;
* people looking for dishes they do not have at home.

Seafood was the third preference but provoked less interest in the discussion than chicken.

Menu planning decision makers saw beef as being very versatile as it can be used in many different ways to prepare a variety of dishes. The following comment reflects the confidence they had in their ability to use beef.

> **"It's so versatile and so compatible with everything else and (you can) serve it up with just anything."**

Some subtle changes had been made to beef dishes, for example, marinading and butterfly cutting of the beef to ensure tenderness and to speed up service. This was also related to providing value for money. Use of marinades enabled cheaper cuts of meat to be utilised and so the price of the dish was kept down to a reasonable level. Use of a greater variety of sauces gave opportunities for change in the menu.

Steaks were expected to continue to be offered on the menu, there is a tendency for people to want old-fashioned dishes and beef dishes were not expected to change much in the next few years. This was summed up by the following remark made by one of the menu planning decision makers:

> **"...with beef I don't think there is any need to change it. It sells well,**

and I don't see if there is any way you can really change it."

However, they did think that their customers would want more variety on the menu in the future.

They were also content with the forms of beef which were currently available and so any new beef products would have to have something special to offer in the way of opportunities to fill gaps in the menu or to relieve some of the constraints under which they work.

5.2.4 Self Image

The menu planning decision makers, most of whom were chefs, wanted job satisfaction, they wanted to be able to be creative, to get enjoyment from their work and be involved in the preparation themselves. They had to achieve a balance between job satisfaction and relief of the pressures upon them to be efficient and cost effective in their work. The menu planning decision makers' focus groups did not discuss value-added products other than portion controlled beef. They were more interested in talking about what problems they were having, and how they overcame them without buying in ready-made products, indicating a desire to prepare as much as possible themselves. The larger operations were already using portion controlled beef to save time and to be assured of the yield, for there can still be excessive waste if apprentices or unskilled staff are unable to cut the beef economically.

Value-added products were only considered when menu planning decision makers were forced to use them by circumstances. They would rather make the products themselves. Many chefs still had a fierce pride in their skills and considered it beneath their professionalism to resort to using value-added products. They liked to have confidence in the products they buy and not be ashamed to put them on their menus. They wanted to maintain their reputations. This is why quality was the first consideration. After that the price was important as they had to fit it into their cost structure.

It was clear, therefore, that menu planning decision makers would not relinquish their work readily for the introduction of value-added products. Any new beef products would have to be designed to provide menu planning decision makers with relief from the constraints upon them, notably to save them time, to improve yields and to ensure consistent quality.

5.3 Menu Changes and Analysis

Methods used for menu analysis and the frequency of menu changes were investigated in Survey 2, New Beef Product Adoption Stages, in order to demonstrate the continuing need for new products (see Section 3.6.3).

It is not sufficient for menu planning decision makers to become aware of new beef products there must also be a source of motivation in order for them to take note of, and develop an interest in, new beef products. This is largely provided by the need to develop new dishes as a consequence of menu change and the introduction of 'specials'.

5.3.1. Menu Changes

Six types of menu change were identified, and the use of these types of menu changes in the 114 outlets controlled by the respondents are shown in Table 5.5. These changes included a complete revision with the production of an entirely new menu either with or without specials, a conservative revision involving minor significant changes to an existing menu with or without specials, no major revisions but the addition of some new dishes to an existing menu, and no changes made. Very few outlets never experienced a menu change. The most frequent type of change was to completely revise the menu whilst offering new dishes or 'specials' in between the major menu changes. This was followed by conservative revision of the menu whilst also offering new dishes or 'specials' between the significant menu changes. A small proportion did not undertake significant menu changes but still offered new dishes or 'specials' at intervals.

Table 5.5: Methods of Menu Revision

Methods of Menu Revision	Outlets % (Number)
Completely revise and offer specials	29 (33)
Revise conservatively and offer specials	21 (24)
Revise conservatively	19 (22)
Completely revise	17 (19)
No major revision but add new dishes	11 (13)
Never change the menu	3 (3)
N=114 outlets for 48 respondents	

Of those outlets, which carried out major menu revisions (86%), over half of the outlets (52%) changed their menus at least once every three months with 27% changing their menus every 4 - 6 months. Sixty three percent of the outlets offered new dishes or specials; of these 46% introduced new dishes almost every day and a further 36% offered them every week. Introduction of new dishes was, therefore, undertaken at least once a week by 82% of these outlets. The frequency with which menu changes took place is summarised in Table 5.6.

Table 5.6: Frequency of Menu Revision and New Dishes/Specials Offered

Frequency of Menu Revision	Outlets % (Number)	Frequency of Introduction of New Dishes/Specials	Outlets % (Number)
once every $\leqslant$ 3 months	52 (52)	every day/more than once a week	46 (33)
4-6 months	27 (27)	once a week	36 (26)
7-12 months	14 (14)	once fortnight	4 (3)
> 12 months	6 (6)	once a month	8 (6)
N=99 outlets for 45 respondents		less than once a month	6 (4)
		N=72 outlets for 34 respondents	

5.3.2 Menu Analysis

Every foodservice operation assesses the performance of its menu(s) in order to obtain essential information on consumer demand for different menu items and so keep the menu up-to-date with trends in consumer preferences. Many of the smaller foodservice operations relied on sales records, food cost percentages, customer feedback and/or subjective methods of evaluation to assess their menu performance. The larger operations more often used popularity indexes and menu engineering. Respondents were asked to rate how frequently they used each method of menu analysis as a percentage of the number of times they did a menu analysis. The frequency of use of methods of menu analysis is summarised in Table 5.7.

Table 5.7: Frequency of Use of Methods of Menu Analysis

Method of Menu Analysis	Frequency of Use of the Methods*		
	Nearly all the time	Moderately	Infrequently
	% (Number)	% (Number)	% (Number)
Customer Feedback	73 (35)	8 (4)	19 (9)
Food Cost Percentage	65 (31)	15 (7)	21 (10)
Sales Records	58 (28)	8 (4)	33 (16)
Subjective Evaluation	48 (23)	13 (6)	40 (19)
Popularity Index	29 (14)	10 (5)	60 (29)
Menu Engineering	29 (14)	6 (3)	65 (31)
Other Methods	10 (5)	0 (0)	90 (43)

N=48 Respondents

* Nearly all the Time, 61-100%; Moderately 41-60%; Infrequently, 0-40%; of the times when Menu Analysis is used.

The most frequently used methods of menu analysis were customer feedback (73%), food cost percentage (65%) and sales records (58%). The use of customer feedback by the majority of operations indicated the importance of customer response to the dishes and also, therefore, to the products used in their preparation. Food cost percentage and sales records followed in importance, being methods which check that the foodservice outlets are operating efficiently and remain profitable.

Operations used subjective evaluation, popularity index and menu engineering less frequently.

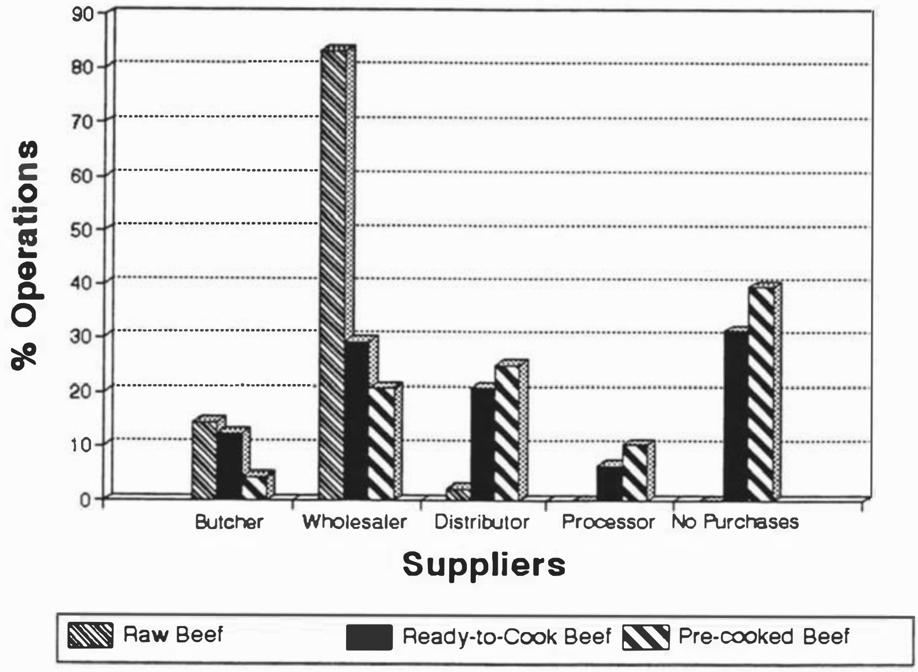
5.4 Menu Planning Decision Maker/Supplier Relationship

The types of suppliers used by menu planning decision makers, the loyalty to these suppliers when purchasing different types of new beef products and the frequency of purchase of new ingredients were investigated.

5.4.1 Suppliers Used

Four major types of supplier were used; retail butchers, wholesale butchers, distributors and meat/food processors. These varied with the type of beef product being bought; raw, prepared ready-to-cook or pre-cooked, as shown in Figure 5.1.

Figure 5.1: Suppliers used for Beef Types



N=48 Respondents

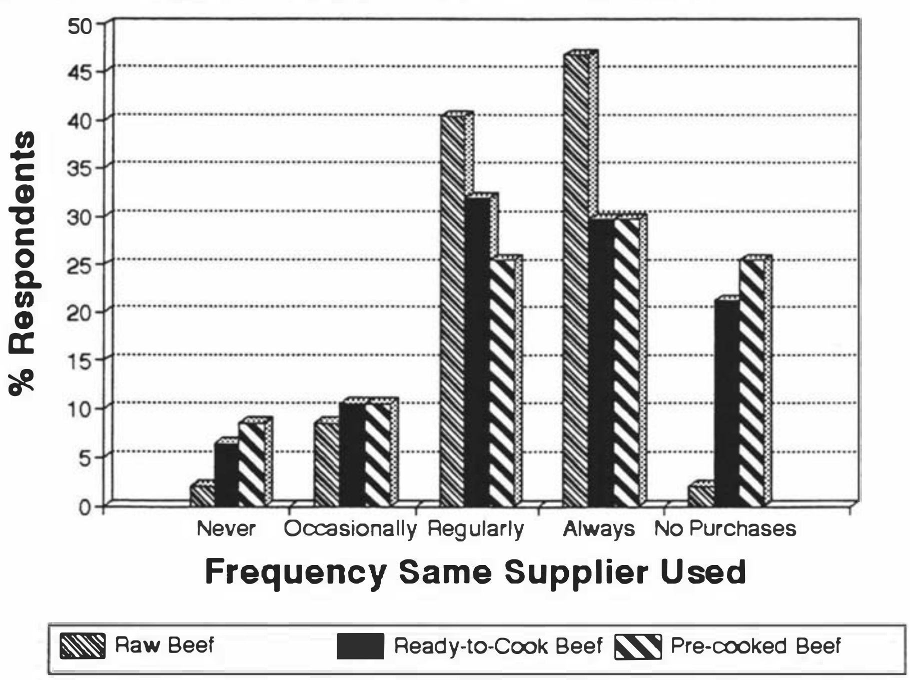
The meat wholesaler had the greatest proportion of the market for beef, particularly for raw beef products and had almost an equal share with distributors of the prepared ready-to-cook and pre-cooked beef markets. For the raw beef the major supplier was the meat wholesaler (83%) followed by the retail butcher (15%). Prepared ready-to-cook and pre-cooked products were purchased from the whole range of suppliers. For prepared ready-to-cook products wholesale butchers were the most used (29%) followed by distributors (21%), and for pre-cooked products it was the reverse, more using the distributor (25%) and fewer the wholesale butcher.

Thirty one percent of the operations did not purchase prepared ready-to-cook beef products and an even larger proportion did not purchase pre-cooked ones (40%).

5.4.2 Supplier Loyalty

Loyalty to suppliers was greatest for the purchasing of raw beef products. A comparison of the respondents' loyalty to their suppliers for the three new beef product types is shown in Figure 5.2.

Figure 5.2: Supplier Loyalty for New Beef Products



N=47 Respondents

The majority (87%) always, or regularly, stayed with the same supplier for raw beef products whilst for prepared ready-to-cook beef products the proportion was 62% and for pre-cooked beef products it was 55%.

5.4.3 Purchasing of New Ingredients

The numbers of new ingredients purchased as a result of both the periodical menu changes and the continuous offering of new dishes or 'specials', and between major menu changes are given in Table 5.8. At their last menu change more than 10 new ingredients were purchased for 48% of the outlets, while more than 10 new ingredients were purchased for 25% of the outlets between menu changes. Thus, there was a constant need for new ingredients, not just periodically at menu changes but continuously as new dishes and 'specials' were developed every week.

Table 5.8: New Ingredients Purchased for Menu Changes

Number of New Ingredients	At Last Menu Change % (Number) of Outlets	Between Menu Changes % (Number) of Outlets
0-10	52 (59)	75 (85)
11-20	24 (27)	20 (23)
21-30	17 (19)	5 (6)
31-40	5 (6)	0 (0)
>40	3 (3)	0 (0)
N=114 outlets for 48 respondents		

When asked if they had purchased any new beef products in the past five years, 73% of the respondents said they had, indicating that there are opportunities for introduction of new beef products into hotel and motel foodservice operations.

5.5 Factors Affecting the Awareness and Interest Stage in Product Adoption

Once the need for new products has been recognised the menu planning decision maker takes an interest in sources of information which lead to the identification of new products. The importance of the different sources of information in raising awareness of new beef products depends upon the menu planning decision makers' attitudes both to different product types, and to their relationships with their current suppliers.

5.5.1 Information Sources

The awareness of new products starts with the menu planning decision makers coming into contact with the relevant sources of information. These sources include: sources involving direct communication with people; the print media; and direct contact with the product. The distinction between the frequency of use of the sources and the influence they have is an important one. Use of a source may depend upon its availability. If a source is not frequently available then it may not be used often but, if it is considered important by the menu planning decision makers, it might have a great deal of influence.

The most used sources were those involving direct 'word of mouth' communication between people, and the most influential were both these and direct contact with the product. Direct 'word of mouth' communication proved to be the most important source of information for the menu planning decision makers. It was the sales representatives of distributors who were used the most and also had the most influence in persuading the menu planning decision makers to try new beef products. This supports Webster's (1970) and Martilla's (1971) research in industrial marketing in which the "manufacturers' salesmen" were important 'word of mouth' sources. In foodservice the equivalent to manufacturers' salesmen are the distributors' sales representatives and food processing company representatives. In this research food processing company representatives, though used frequently, had less influence than other direct 'word of mouth' communication sources. Persons from the respondents' own foodservice operations were used frequently and had considerable influence.

Direct contact with the product through supplier promotions, though used infrequently, had a relatively high degree of influence. It offered opportunities to evaluate the product from first hand experience so reducing some of the risk involved in using a product for the first time. It may also subsequently reduce some of the post-purchase uncertainty, noted by Martilla (1971) as being experienced by 90% of buying influentials. The other source, the print media, had much less influence despite frequent use.

The suppliers' influence through their sales representatives and the use of promotions appears to be a vital part in the awareness process for creating interest in new beef products.

5.5.2 Menu Planning Decision Maker/Supplier Relationship

Further evidence of suppliers' influence is also seen by the loyalty, which menu planning decision makers show to their suppliers. The high proportion purchasing raw beef products from wholesalers and remaining loyal to the supplier was high. This supports Hypothesis H3 that; "menu planning decision makers tend to stay with their existing suppliers of beef products as long as there are no compelling reasons to change". It also indicates a reluctance to change suppliers so making the entry of new suppliers into this market channel more difficult. On the other hand supplier loyalty was much lower for prepared ready-to-cook beef products and this could indicate better opportunities for new suppliers. The relatively high proportion of operations which did not purchase prepared ready-to-cook or pre-cooked beef products indicated a resistance to the purchase of these products which must be overcome before the opportunities can be realised. This supports both the findings of Lehmann and O'Shaughnessy (1974) and Hypothesis H2 that; "the relative importance of the product and supplier attributes will vary across the three types of purchase situation for: new raw beef products; new prepared ready-to-cook beef products; and new pre-cooked beef products".

Menu planning decision makers in the Hotels/Motels market segment spent more on beef in the form of whole cuts than on any other form, including portion control and prepared and processed beef. Only a very small portion of beef expenditure was on pre-cooked beef. But there was interest in new beef products especially in the portion control category. Portion controlled beef products saved time and reduced the need for staff with butchery skills but did not diminish the creative nature of the menu planning decision makers' work. This indicated that compatibility, one of Roger's (1983) perceived product attributes, tested by Holak and Lehmann (1990) in their path model of new product evaluation, was an important factor in the acceptance of new beef products.

As the relationship between the buyer and the supplier in the foodservice industry is very stable, new products will need to be channelled into the established system in order to attract attention. For companies producing new beef products this will mean using the supply channels already in place. For processed products this will involve using the established distributors while for wholesalers their own clientele will be the starting point.

5.5.3 Needs Attitudes and Behaviour of Menu Planning Decision Makers

Menu planning decision makers work under constraints which have contributed to a move towards the purchasing of ready-trimmed and portion controlled beef. The constraints; the need to save time, to cope with a shortage of skilled staff and to serve a large number of meals efficiently have to be balanced against their self image as professionals and their desire for job satisfaction. They will only use value-added products when they are forced to by circumstances in order to save time, to improve yields and to ensure consistent quality. They have already accepted portion controlled beef moving away from whole or part carcase quantities. The move towards the purchasing of value-added products, therefore, appears to be incremental with gradual acceptance of product improvements being the norm rather than dramatically different innovations. New beef products must, therefore, provide some relief for menu planning decision makers from constraints yet at the same time enable them to continue to exercise their creativity and so preserve their self-esteem.

5.5.4 Interest in New Products

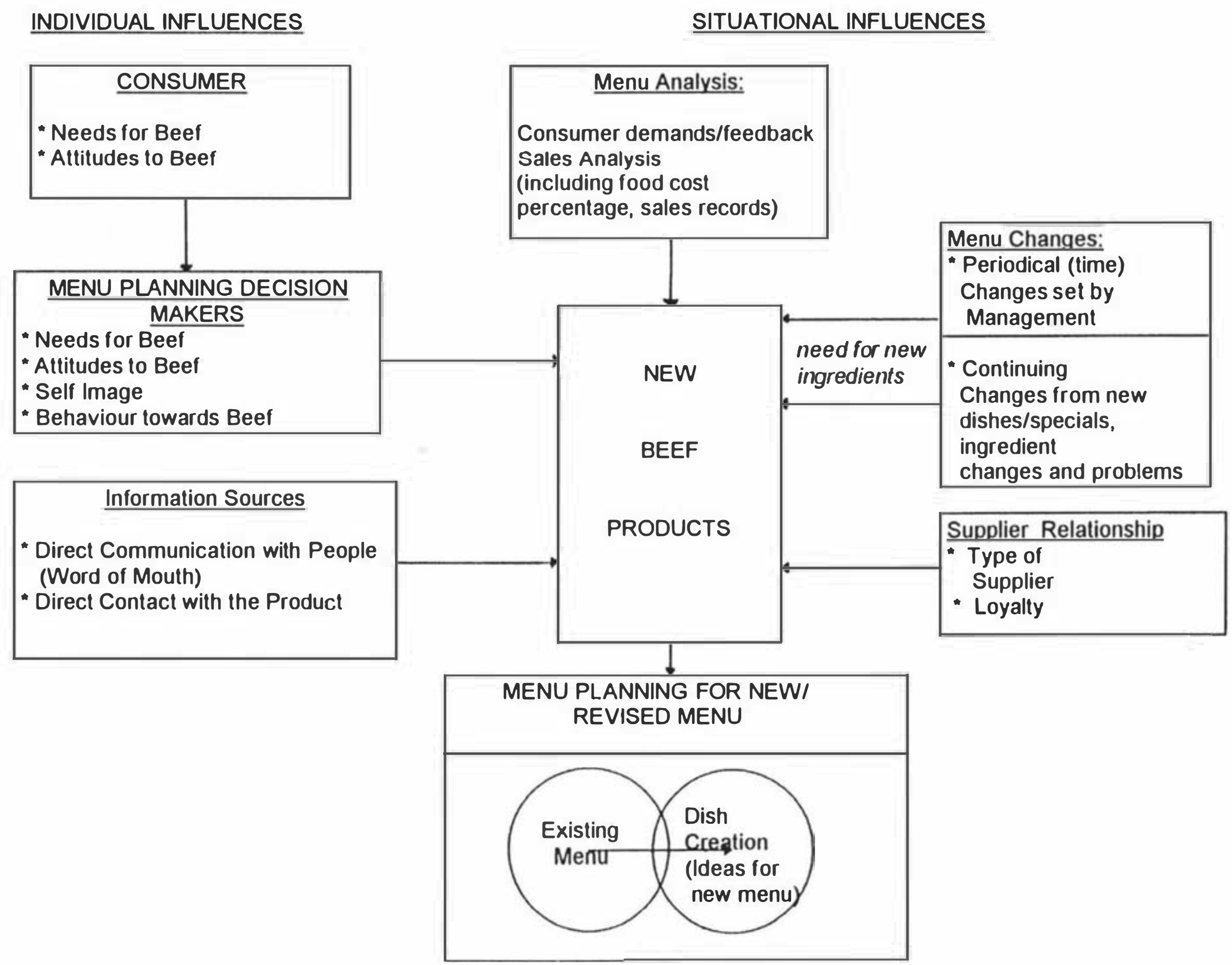
New ingredients were introduced, not only at the main menu changes but also between these changes indicating that new product adoption is an on-going process not a major event taking place at fixed intervals. The frequent use of menu analysis involving customer feedback and the constant monitoring of sales and food costs provided indicators for the performance of both menu items and hence the ingredients used. In this way opportunities for the replacement of poor performers would be highlighted and so initiate interest in the search for substitute, alternative or new ingredients.

5.5.5 The New Beef Product Adoption Model Stage 1: Awareness and Interest

The factors affecting awareness and interest in new beef products are all inter-related and centred around the foodservice operation's menu planning process. The need for new ingredients may be created during the menu planning process when there are changes to the menu and new dishes are created. In addition the monitoring of menu performance by menu analysis may indicate the need for menu change and hence lead to the need for new ingredients. This need for new ingredients necessitates the use of sources of information. Interest is influenced by customer demands and awareness of new products is encouraged by the sources of information used and the menu planning decision makers' relationship with the suppliers.

The existence of the awareness and interest stage of the new beef product adoption model is a reality for menu planning decision makers and is also part of their own new product development process where they gather ideas and information for the planning of new dishes for their menus. These factors, which demonstrate awareness and interest, may be assembled into the first part of the New Beef Product Adoption Model as shown in Figure 5.3.

Figure 5.3: The New Beef Product Adoption Process Stage 1 - Awareness and Interest



CHAPTER 6
DEVELOPMENT OF THE PRODUCT CONCEPTS

The product concepts were developed with the assistance of the two supplying meat companies who were to make the products, the menu planning decision makers and the consumers. Two brainstorming sessions, involving variations on the Nominal Group Technique and Synectics, produced 74 product ideas. The product ideas had to satisfy the needs of both menu planning decision makers and consumers. The ideas were reduced to five by a multi-stage screening process. Finally discussions with the management of the two supply companies enabled the final five product concepts to be developed.

6.1 Product Idea Generation

Idea generation was undertaken with the foodservice product development process in mind, utilising information on menu planning decision makers' needs and the opportunities offered for new beef products to fill 'gaps' in the menu.

6.1.1 Analytical Idea Generation

In order to provide some insights into the range of likely ideas a non-analytical technique, morphological analysis, was used. Ten different categories of new beef products were generated by this method: raw beef stuffed roasts; portion controlled stuffed raw beef slices; marinated beef products; shaped processed products; pie fillings; fillings for taco shells and other 'pocket' shaped products; fillings for crepes; extruded beef products; cold beef products; finger food fillings. These ideas provided a guide for the author when undertaking the brainstorming for further product ideas.

6.1.2 Brainstorming

Two brainstorming sessions were conducted, each combining different variations of non-analytical techniques (see Section 3.5.2).

The problem (Exhibit 6.1) was explained to the group at the beginning of the first brainstorming session. A variation on the Nominal Group Technique was used which generated 50 product ideas.

Exhibit 6.1: The Problem

The Problem * the development of new value-added beef products for the foodservice industry, notably hotels and motels in Australia.
Consumers want: * value for money; * the beef to be tender, lean and with no or minimal fat.
Chefs want: * moderate prices so that they can give value for money; * quality beef which is tender, lean and with minimal fat.
Factors **The new products should either:** **Fill 'gaps' on the menu**: * beef items for a children's menu; * beef items for function menus; * 'light' beef dishes for entrées or 'light' main courses. **or** **Provide relief for chefs from some of the constraints they are under:** * save chefs' time during preparation stages; * save chefs' time during cooking stages to enable them to serve food quickly; * help chefs when they have a shortage of skilled staff.
Some facts * The foodservice operations in question already serve many beef dishes (approximately one third of main course items contain beef). * Steaks and their sauces are already very popular on these menus. * Dishes which include beef in pastry are trendy in Melbourne at the moment.

In the second brainstorming session the participants were provided with a copy of the ideas generated during the first session and a variation on Synectics involving an excursion of the direct analogy type was used (see Section 3.5.2). From this second session 37 ideas were generated, 24 different ones from those suggested during the first session.

The 74 different product ideas generated from the two brainstorming sessions were then collated into two main groups, prepared beef and pre-cooked beef, and each with six sub-categories of product types. This was the form for the final listing of ideas before preliminary screening was undertaken (see Appendix 20).

Products Prepared But Not Cooked (32 ideas)

1. Raw beef cuts - ways of cutting (11 ideas).
2. Raw beef with coatings (3 ideas).
3. Raw beef cuts with marinades (7 ideas).
4. Raw beef with stuffings (4 ideas).
5. Beef in pastry (1 idea).
6. Processed beef (6 ideas).

The first group involved new ways of cutting beef with no further treatment of the beef; three groups involved cuts of beef treated in different ways by marinating, stuffing or coating, and the remaining two groups were of prepared ready-to-cook beef products, including beef in pastry and processed products in which the beef had been combined with other ingredients.

Pre-cooked Products (42 ideas)

1. Sauces for beef dishes (6 ideas).
2. Casserole-style beef dishes (1 idea).
3. Pies and pastry products (5 ideas).
4. Processed/pickled/cooked beef for salads (7 ideas).
5. Processed beef products cooked/ready to re-heat (15 ideas).
6. Beef cuts ready cooked (8 ideas).

These 6 groups were assembled according to the style of product and/or possible use by the foodservice operation.

6.2 Product Idea Screening

A five stage screening process was used (see Section 3.5.3). A summary of the stages and the number of ideas accepted at each stage is provided in Exhibit 6.2.

Exhibit 6.2: Product Ideas Produced/Accepted in the Idea Screening Process

Stage and Method		Applications	Ideas Accepted
Total Ideas from Brainstorming			**74 ideas**
Preliminary Screening		Evaluative Criteria	
	Rationalisation of Product Ideas	↓	30 ideas
Focus Groups		Product Idea Development with Consumers Chefs (direct) Customers (derived)	
	Insights into Consumer Views	↓	30 ideas
Technical Feasibility		Discussions with Meat Technology Experts	
	Consolidation of Product Ideas	↓	32 ideas
Checklist Screening		Technical & Marketing Factors Checklist Screening using Food Technologists	
	Idea Reduction for Final Screening	↓	14 ideas
Company Specific Checklist Screening		Checklist Screening by Company Management	
		↓ Selection of Final Product Ideas	5 ideas

6.2.1 Product Ideas Accepted/Rejected by Preliminary Screening by the Researcher

A set of constraints (Exhibit 6.3) was developed against which each idea was tested in order for decisions to be made to retain the idea, discard it or amalgamate it with other similar ideas.

Exhibit 6.3: Criteria for Preliminary Screening of Product Ideas

Criteria for Preliminary Screening of Product Ideas

For each of the ideas the following questions were asked and the answers matched against a set of constraints constructed from the results of the exploratory research.

1. What do the consumers want?
   Constraints:
   The product should fulfil the following:
   * the product must be lean, tender and with minimal or no fat;
   * if the product has other ingredients the proportion of beef should be substantial.

2. What are the benefits of the product?
   Constraints:
   The product should offer benefits which are meaningful to menu planning decision makers.
   At least one of the following constraints should be met:
   * the product must meet the need for skilled work to be done already which apprentices would otherwise do;
   * the product must meet the need to reduce lengthy preparation time;
   * the product must reduce the time required for cooking/service.

3. Is the new product sufficiently different to other products which the chefs might purchase to fulfil their needs?
   Constraints:
   At least one of the following constraints should be met:
   * the product should allow the chefs opportunities to use it in their own way;
   * the product is a variation on products already known/used by chefs;
   * the product should give the chef some leeway to make it his/her own.

4. What advantages does the product have over competitors?
   Constraint:
   * the product should offer benefits superior to those provided by competitors' products.

5. Will the product be perceived to give value for money?
   Constraint:
   * the product should be produced for <$7-$8 per kilo (for products like schnitzel) or <$11 per kilo (for products perceived to be of 'better' quality).

Twelve ideas were eliminated, the reasons are provided in Appendix 21. The remaining ideas were consolidated into 30 ideas within 11 categories and are given in Appendix 22. Each category was assigned an objective to place it in the Hotels/Motels context.

6.2.2 Assessment of Product Ideas by Menu Planning Decision Makers and Consumers

These product ideas were presented to focus groups to gain insights into how both menu planning decision makers and consumers viewed the product ideas and to assist with subsequent screening.

The menu planning decision makers showed considerable interest in the raw products and, as the degree of value added to the products increased, criticisms increased and interest declined.

The idea of *beef sliced very thinly* (like smoked salmon) or in 'julienne' pieces for 'light' beef dishes, especially entrées, was very well received as thin slices of beef are hard to prepare and to cook to produce a tender, juicy product. The value added to this product was appealing;

> **" ....to provide an entrée which had a portioning aspect pre-prepared, that would be great."**

The menu planning decision makers did not consider that beef already cut ready-to-cook would take away any of their skilled work. The product would satisfy both of their major needs to save time and to overcome a shortage of skilled staff.

Marinated and flavoured beef were considered to be ideal for functions and it was thought that *flavoured pickled beef* would be attractive to restaurants.

The idea of a *processed beef product* to compete with the burger was liked but it would have to be very different to the burger, both in shape and character. The appearance and texture of the product was of the greatest importance, even before flavour. Some concern about the fat content of processed beef products was expressed because of the perceived trend among consumers to want healthier foods. This type of product would save time in preparation.

The idea of *ready cooked beef cuts* was totally rejected. These were considered to be more suitable for the domestic market. Preparation and cooking were considered vital parts of the restaurant. Indeed the menu planning decision makers were very conscious of their need to protect their livelihoods.

Five product ideas were very acceptable to both menu planning decision makers and consumers; *raw thin beef slices, processed beef products, beef in pastry as finger food* and *pastrami products.*

6.2.3 Product Ideas Accepted/Rejected for Technical Feasibility

All 30 ideas were also evaluated in terms of currently available technology. The main aspects considered were:

* technical feasibility;
* availability of the necessary technology;
* competition from products already on the market;
* likely volume of demand for the product.

None of the product ideas were rejected. They were all technically feasible and the technology was available. Two of the ideas, nachos and meat loaf, previously discarded in the preliminary screening were reinstated to the list for checklist screening as these were technically feasible and not currently offered to foodservice.

6.2.4 Product Ideas Accepted/Rejected by Checklist Screening

The 32 product ideas were screened using the following criteria:

Marketing

A Suitability of the product to be made from beef.

B Utilisation of beef.

C Likely demand for the product by consumers.

D Likely demand for the product by menu planning decision makers.

E Existing competition.

Technical.

F Technical feasibility.

G Likely cost of processing the product.

H Cost of raw materials.

From the checklist screening fourteen product ideas were retained for final screening by management of the selected companies.

* **New Beef Cuts**: tender beef in thin slices; roasts/noisettes.
* **Treated Beef Products:** beef in marinades; flavoured pickled beef.
* **Prepared Ready-to-Cook Beef Products:** burger competitor; coated beef product .
* **Pre-cooked 'Un-treated' Beef Products**: pre-cooked thin sliced beef; pre-cooked steaks.
* **Pre-cooked 'Treated' Beef Products**: pre-cooked beef patty; pre-cooked meat loaf; casserole of beef; beef pie filling; beef 'pocket' filling; cooked 'beef bits' for salads.

These ideas were expanded into brief product descriptions with the aid of the menu planning decision maker and consumer focus groups, discussions with meat and food technologists, literature on product descriptions, recipes from a range of references on food preparation, food processing and cuisines from different countries, and information from meat companies. The management of the meat companies were provided with the brief product descriptions (see Appendix 23). They screened the product ideas and also contributed to the product concept development.

6.2.5 Product Ideas Accepted/Rejected by Suppliers

Of the fourteen product ideas, six were selected for discussions with the General Manager of Company A: *tender beef in thin slices; roasts/noisettes; beef in marinades; flavoured pickled beef; burger competitor* and a *coated beef product.* Eleven of the product ideas were selected for discussions with the Food Technologist and the Marketing Manager of Company B: *beef in marinades; burger competitor; coated beef product; pre-cooked thin sliced beef; pre-cooked steaks; pre-*

cooked beef patty; pre-cooked meat loaf, casserole of beef; beef pie filling; beef 'pocket' filling and *cooked 'beef bits' for salads.*

The respondents scored the product ideas out of 10 according to the following factors:

Technical Factors

A Technical feasibility of processing and packaging - amount of development needed.

B Technical feasibility of processing and packaging - amount of capital expenditure needed.

C Production costs - likely cost of raw materials, processing and packaging.

D Proportion of beef likely to be used in the product.

They were also asked to indicate the market segments from which demand for each product could be expected.

Demand

E Likely demand from the expected market segment(s).

F Likely demand from hotels/motels/cafes/restaurants for the product.

A summary of the scores awarded by the companies for technical factors and the demand factor for hotels/motels/cafes/restaurants is in Appendix 24.

Company A Products

The General Manager scored three products which resulted in the following rank order:

1.	*Tender beef in thin slices*	-	*total score 43*
2.	*Flavoured pickled beef*	-	*total score 39*
3.	*Roasts and noisettes*	-	*total score 31*

All of these three products were considered suitable for the foodservice market segment.

Tender beef in thin slices could be produced very easily and so expenditure on development and capital equipment would be minimal. The main query was the market demand and, as it was likely to be a specialist product, suitable uses would need to be found in order to assist in marketing the product. Company A had the equipment to produce *flavoured pickled beef* and was already producing a standard pickled beef. Additional expenditure required would only be for the development of a suitably flavoured curing mix. The main task would be obtaining information about the desirable flavours from the menu planning decision makers. Both of these products could, therefore, be readily produced by the company and it was decided to include them in the final product concepts list.

Roasts had been thoroughly researched by Company A and it already offered a full range of roasts required by the clients/chefs to meet their needs. The task of finding more would require a lot of development work. Beef was not used for *noisettes* because the thickness and size would be too large. In this case too, a lot of development work would be needed to design a suitable product. It was, therefore, decided to omit roasts/noisettes from the final product concepts list.

Company B Products

The scores awarded by the Food Technologist and the Marketing Manager of Company B resulted in the following rank order:

		Mean Score
1.	*Beef in marinades*	*38.5*
2.	*Coated beef product*	*37*
3.	*Pre-cooked beef patty*	*35.5*
4.	*Burger competitor*	*34.5*
5.	*Pre-cooked meat loaf*	*33*

All of the products were considered suitable for foodservice with the exception of beef in marinades which was thought to be more appropriate for the retail market. The *pre-cooked beef patty* was already produced by Company B and was considered to be most attractive to the large foodservice companies. It was decided that this market knowledge should be recognised and so this product idea was also discarded. The remaining three product ideas: *coated beef product; burger competitor and pre-cooked meat loaf* were, therefore, added to the final product concept list.

6.3 Final Product Concepts

Five products *(tender beef in thin slices, flavoured pickled beef, burger competitor, coated beef product and meat loaf)* were selected and developed into product concepts. Company A advised on the packaging, batch sizes and the cuts of the *tender beef in thin slices and flavoured pickled beef.* Company B advised on the ingredients, size, shape, portion size, batch size, texture, flavour, production process and price of the *burger competitor, coated beef product and meat loaf.*

These five product ideas represent the full range of value which can be added to beef in terms of the saving of labour and time for chefs. In addition, they offer opportunities to fill 'gaps' in the menu, for light entrée dishes and main courses, for volume function catering or fast food service.

Raw Beef Product - Untreated

1. *Tender beef in thin slices*, while still in the raw state will provide chefs with a product of consistent dimensions enabling them to save a great deal of time and so releasing their skilled labour for other, more value-added, tasks.

Raw Beef Product - Treated

2. *Flavoured pickled beef* is a variation on the traditional pickled beef, which is already a well-established product. It will save the chefs' preparation time but will still offer them almost as much flexibility as the untreated raw muscle.

Prepared Ready-to-Cook Beef Product

3. *The burger competitor, the Fricadelle,* will save preparation time for fast food service and offer an alternative to beef patty products already available. Beef burgers are already available in a standard round form, individually quick frozen or are made by the chefs themselves. This product, which is oval in shape having both beef and bacon flavours with a hint of herb and lemon, would offer a different shape with a novel flavour.

Prepared Ready-to-Cook Beef Product

4. *The coated beef product* will save preparation and a small amount of cooking time for fast food service. It will provide an alternative to other processed meat products currently available, offering beef patties and a sauce incorporated into the one product. Flash fried and individually quick frozen it will be ready to cook.

Pre-cooked Beef Product

5. *The pre-cooked meat loaf* will save both preparation and cooking time for fast food service and for volume catering. Since it is suitable for service as either a hot or cold dish it also offers some degree of versatility.

6.4 Discussion

Persons involved in idea generation and screening were representative of both the adopters and the developers, thus facilitating developer/adopter interactions in the early stages of new beef product development.

6.4.1 Product Idea Screening

At each successive stage of the screening process, as more parties were involved, the number of constraints applied increased. Each participating group of professionals approached had to bear in mind the preferences and needs of those who had already participated in the earlier stages. The companies were selected in the later stages because they provided a broad range of marketing and technical expertise which encompassed the greater number of the ideas remaining after the first four stages of screening. If the author had been associated with a particular company from the beginning the company-specific constraints would have been applied at the beginning of the screening process, even before the consumers and menu planning decision makers were consulted. As the aim of this research was to develop new beef products for the Hotels/Motels market segment of the foodservice industry it was appropriate, therefore, to ensure that the marketing factors were given priority by involving persons with the relevant adopter experience in the early stages of the screening process and that practical considerations relating to the companies were applied in the final stage. The screening process thus involved a blend of developer, adopter and consumer inputs.

6.4.2 Developer/Adopter Interactions in Idea Generation and Screening

Of the three groups closely involved in the process of new beef product adoption; meat companies, menu planning decision makers and the consumers, the latter had the smallest number of constraints upon them. This was reflected in the large number of product ideas liked by the consumers in the focus group discussions. The consumers had one prime consideration and that was personal preference. The menu planning decision makers not only had to think in terms of the consumers' preferences but their views were also affected by practical constraints; the need to save time in both preparation and cooking in order to provide a fast service with a minimal number of skilled staff. They do need to use some products which have already had work done on them and which are ready to cook or serve. However, many chefs do not wish to give up their skills and are afraid of losing their livelihoods if most of the work is already done for them by the meat processing companies. The responses of menu planning decision makers and consumers, therefore, diverged most when the menu planning decision makers perceived that the dishes they could create from the products would not allow them to express sufficient individuality. In these cases responses were more a function of the menu planning decision makers' pride and his/her perception of possible market advantage over competitors.

These factors were reflected in the fourteen ideas remaining after checklist screening. The four top ranking product ideas were all for raw products. The other ten ideas were products with increasing levels of added value and, though providing the menu planning decision makers with greater benefits in terms of saving time in preparation and, in some cases, cooking, would offer them fewer opportunities to practice their skills and show their creativity.

Management of the two companies had different constraints acting upon them compared to the menu planning decision makers and consumers. They were fully aware of the need for the product to be of interest to the consumers but, most importantly, they knew that the products must also satisfy the menu planning decision makers' needs. Both companies considered the menu planning decision makers' product development needs as well as their own, and tried to present their product in an appealing way which also allowed the menu planning decision makers to anticipate their use. In addition they were very conscious of the price the menu planning decision makers would be prepared to pay for different types of new beef products. Thus, the development of new product concepts for foodservice in meat companies is, therefore, closely linked to the dish development process as carried out for menu planning by menu planning decision makers. However, even when market factors favoured the product idea, company-specific factors played the most important part. Product types similar to those already produced by the companies were preferred and those which required the greatest development and production costs were rejected. Ultimate decisions on the borderline products were based upon marketing factors.

6.4.3 Product Concepts

The method of involving representatives of all three of the groups closely associated with the new beef product adoption process, the meat companies as the developers, the menu planning decision makers as the adopters and the consumers as the Hotel/Motel customers, in the early stages of the new beef product development process ensured that the ideas selected for the development of the product concepts were not only technically feasible and within the developing companies' capabilities but were also suited to the needs of the Hotels/Motels market segment and its customers.

The five product ideas selected as a consequence offered a wide range of added value in new beef products. They represented three types of new beef product:

i) raw beef products (tender beef in thin slices, flavoured pickled beef);

ii) prepared ready-to-cook beef products (Fricadelle, coated beef product);

iii) pre-cooked beef products (meat loaf).

They provided a broad base from which to investigate the factors which menu planning decision makers consider when they make decisions to ***try*** new products. In particular the research was expected to indicate whether the relative importance of product and supplier attributes will vary across these three types of purchase situation.

The final product concept descriptions are shown in Exhibit 6.4.

Exhibit 6.4: Product Concepts

PRODUCT CONCEPT 1: TENDER BEEF IN THIN SLICES

This is a raw beef product which will be uniformly and thinly sliced to enable the chef to prepare delicate beef dishes. It will be suitable for the creation of tender, lighter beef dishes which could be offered as entrées or as lighter main courses, notably as alternatives to steaks and other more substantial beef dishes. The slices will be very thin (2-3 mm thick), tender and without visible fat. They will be attractively lean in appearance and will require little or no cooking being very suitable for Australian, European and Asian dishes.

Product Dimensions: the slices will be offered in two sizes, 2 - 3 mm thick, 10 cm in length and 2 cm or 7 cm wide (approximately).

Packaging: cryovac packed in trays to protect the slices from damage and to enable easy separation without tearing. The weight of beef per pack will be 2 kg to avoid wastage. The product will be sold chilled.

Price: $7.20 per kg (approximately using topside or silverside).

Suggestions for use of the product include:

Australian dishes: beef in garlic sauce, beef in mushroom sauce;

European dishes: rolled and stuffed as in beef olives, beef 'birds' and roulades; in beef consommé;
beef salads;

Asian dishes: sukiyaki, shabu-shabu, beef strips Balinese style and beef in oyster sauce.

The product will be marketed to hotels and motels but will also be attractive to restaurants and cafes.

PRODUCT CONCEPT 2: FLAVOURED PICKLED BEEF

This is the traditional pickled beef but with new spicy flavour combinations. It will be lean in appearance and have minimal visible fat.

Product Dimensions: the product will have a cross section of 7 cm x 10 cm (approximately).

Packaging: it will be cryovac packed.

Price: $7.00 per kg (approximately for using topside or silverside)

Suggested flavour combinations include:

English pickled beef (cure includes salt and nitrite): flavoured with onion, clove and bay leaf.
Spanish pickled beef (cure includes salt): flavoured with capsicum/pepper, tomato and garlic.
Aboukt/Middle Eastern pickled beef (cure includes salt): flavoured with fenugreek, paprika, black pepper, cumin, allspice, cayenne pepper and garlic.
Chinese pickled beef (cure includes salt and red colouring): flavoured with garlic, hoisin sauce, tomato sauce, and sugar.

The product will be marketed to the hotels/motels market segment but will also be attractive to restaurants and cafes.

Exhibit 6.4: Product Concepts

PRODUCT CONCEPT 3: FRICADELLE - THE ALTERNATIVE BURGER

This product is the interesting alternative to the Big Burger. It has unique features which distinguish it from the usual beefburger, both in shape and flavour.

Shape: it is long and oval fitting snugly into a long bread roll.
Flavour: beef and bacon with a delicate blend of herb and lemon.
Texture: it is tender and soft.

It will take no longer to cook than the burger and so will be suitable for fast lunch-time service.
It will be individually quick frozen (IQF) for easy separation and sold frozen, packaged in cartons.
The flavour combination suggested is: Danish - with bacon, lemon and dill or parsley.

Portion Size: 85 g
Packaging: 40 per carton
Price: $24.10 per carton

The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes especially for fast lunch service.

PRODUCT CONCEPT 4: COATED BEEF PRODUCT

This is a full size portion of two minced beef patties enclosing a flavoured sauce and coated with crispy breadcrumbs. It is ideal for the hotel with a busy counter lunch trade and/or gaming facilities (pokies) providing an interesting cheaper alternative to steak. It will be sold frozen in portion controlled sizes and packaged in cartons.
The flavour alternative suggested, with ingredients minced into a sauce is:
Beef portions with mushroom sauce.

Portion Size: 130 g
Packaging: 24 per carton
Price: $32.00 per carton

The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes especially for fast lunch service.

PRODUCT CONCEPT 5: PRE-COOKED MEAT LOAF

This will be a finished product ready to serve chilled or to be reheated for service. The beef mixture will include minced topside of beef, tomato paste, a mixture of vegetables and/or nuts, a hint of garlic, oregano, sugar, salt and black pepper; and the loaf will be finished with a contrasting crisp, cheesy, crumbed topping.

Meat Loaf Size: 2.00 kg
Packaging: it will be frozen and packed in trays to fit the bain marie. There will be 4 trays per carton.
Price: $56.00 per carton ($14 per tray)

The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes especially for fast lunch service.

CHAPTER 7
PRODUCT CONCEPT EVALUATION

The five product concepts, tender beef in thin slices, flavoured pickled beef, the Fricadelle, the coated beef product and the meat loaf, were evaluated by the menu planning decision makers in order to test the product concept evaluation component of the new beef product adoption model and to select the two preferred products for development. In Survey 1, New Beef Product Concept Evaluation, factors likely to affect product concept evaluation were investigated including those which are product specific; the new beef product type, product benefits, product risks, predicted demand, interest in trying the product; and the company-specific factor of outlet type (see Section 3.6.2). In addition, Survey 2, New Beef Product Adoption Stages, included an investigation into the benefits sought in the three different types of new beef product; raw, prepared ready-to-cook and pre-cooked (see Section 3.6.3).

As the respondents' scores did not produce normal distributions, means could not be calculated and so comparison of the product concepts was achieved with the aid of frequency distributions and cross tabulations of the respondents' scores. This method was also used to enable product benefits and product risks to be ranked in importance. Correlations were sought at the 5% significance level between respondents' scores for factors investigated, product benefits and product risks, and interest in trying the product as well as between interest, demand and need for the product.

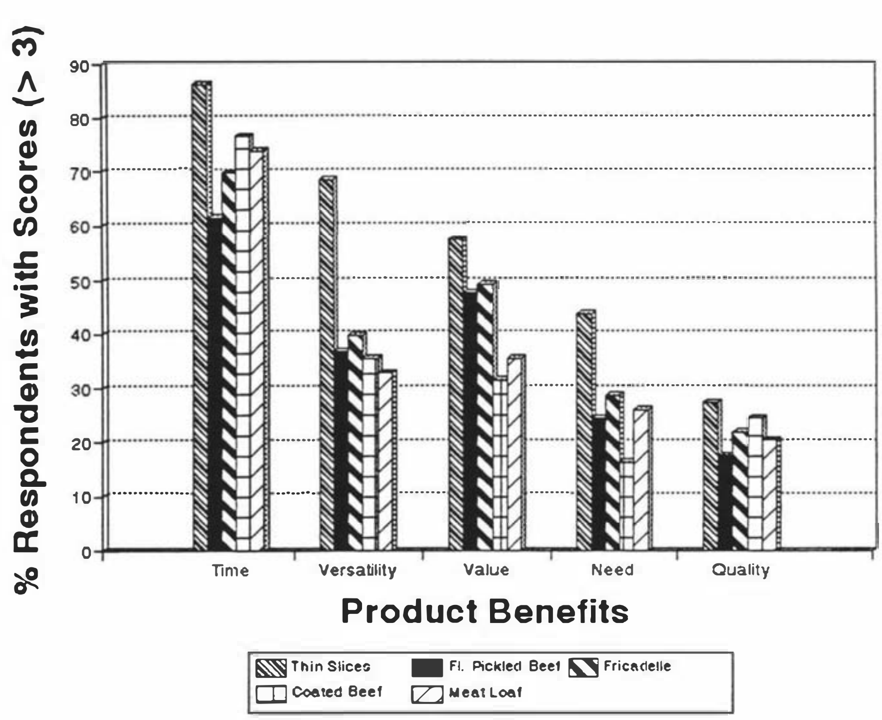
7.1 Product Benefits

A comparison of the benefits offered by the five product concepts was made and correlations with the menu planning decision makers' interest in trying the products obtained. Important product benefits taken into account when decisions to try the three types of new beef products are being made were investigated.

7.1.1 Identification of Important Product Benefits

In Survey 1 the 73 menu planning decision makers scored the product benefits for each of the five product concepts on a five point scale, from very low or no benefit (1) to very high or excellent benefit (5). The benefits were value for money, save time, versatility, quality and need for the product. Frequencies of the highest scores (scores >3) were compared, as shown in Figure 7.1, and the benefits ranked.

Figure 7.1: Frequency of High Product Benefit Scores for the Five Product Concepts



N=73 Respondents

The tender beef in thin slices had the highest scores for each of the five benefits. It had a higher percentage of the respondents scoring >3 for *versatility* than the other product concepts (69% compared to less than 40% for the other four product concepts) and scored extremely well for *save time* although its lead over the others was not so great (87% compared to coated beef product 77%, meat loaf 74%, Fricadelle 70% and flavoured pickled beef 60%), all product concepts scoring well for this benefit. *Value for money* for the tender beef in thin slices was scored highly by over half of the respondents (58%) and it was considered to be *a necessity* by 44% of the respondents. For *need* the coated beef product received the lowest scores. None of the product concepts scored well for *quality* (less than 25% of respondents with scores >3). The Fricadelle performed slightly better than the other three product concepts for *need* (29%), *versatility* (40%) and *value for money* (49%). *Knowledge* of the five products (less than 41% with scores >3) and *experience* of them in use (less than 31% with scores >3) were limited indicating that the product concepts were relatively novel to the menu planning decision makers.

7.1.2 Relationship between Product Benefits and Interest in Trying the Product

In Survey 1 the menu planning decision makers were asked to score on a five point scale, from not interested (1) to very interested (5), their degree of interest in trying each of the new beef products from the information provided in the product concept descriptions (see Chapter 6, Exhibit 6.4). Table 7.1 shows the positive correlations between each product concept benefit and buyer interest in trying the product.

Table 7.1: Correlations between Interest in Trying the Product and Product Concept Benefits

Product Benefit	Tender Beef	Flavoured Pickled Beef	Fricadelle	Meat Loaf	Coated Beef Product
Need	0.00*	0.00*	0.00*	0.00*	0.00*
Value for Money	0.00*	0.02*	0.02*	0.00*	0.38
Quality for Purpose	0.08	0.57	0.00*	0.03*	0.25
Versatility	0.00*	0.00*	0.04*	0.02*	0.24
Save Time	0.00*	0.53	0.13	0.22	0.67

* Values correlated at 5% significance level.

Significant correlations between interest in trying the product and *need* for the product were obtained for all five product concepts. In addition significant correlations for *value for money* and *versatility* were observed for all of the product concepts with the exception of the coated beef product. Significant correlations for *quality for purpose* were observed only for the Fricadelle and the pre-cooked meat loaf while *save time* was significantly correlated only for the tender beef in thin slices. The only significant correlations between *knowledge* of the product and interest was for the meat loaf and there were no significant correlations for *experience* of the product.

7.1.3 Identification of Important Product Benefits for Product Types

The sixteen product benefits were scored on a five point scale, from not important (1) to extremely important (5), according to the importance of the product benefit to the respondent when making a decision to try a new beef product. Additional benefits to those used in Survey 1 were included; low cost, save labour, save on equipment use, serve a large number of meals efficiently, satisfy customer demand, ease of storage, ease of preparation, ease of cooking/reheating, provision of information on product use, a long product life cycle, batch size and minimal wastage. The product benefits were initially ranked, using the percentages of respondents with scores of 5, to show the benefits most important to the majority of respondents. Differences in ranking of the benefits for the three product types are shown in Table 7.2.

Satisfy customer demand and *minimal wastage* were equally ranked as the most important for raw beef while *quality for purpose* was most important for both prepared ready-to-cook and pre-cooked beef products. The second, third, fourth and fifth ranked benefits were the same for prepared ready-to-cook and pre-cooked beef products: *satisfy customer demand* followed by *value for money*, *minimal wastage* and *save time*. For raw beef *quality for purpose* was ranked third, *value for money* fourth and *serve a large number of meals efficiently* fifth.

Table 7.2: Importance of Product Benefits for the Three New Beef Product Types

Product Benefit	New Beef Product Types		
	Raw **Score 5*** **% (Number) of Respondents**	**Prepared Ready-to-Cook** **Score 5*** **% (Number) of Respondents**	**Pre-cooked** **Score 5*** **% (Number) of Respondents**
Satisfy customer demand	69 (33)	60 (29)	54 (26)
Quality for purpose	63 (30)	68 (32)	60 (29)
Value for money	54 (26)	53 (25)	48 (23)
Minimal wastage	69 (33)	48 (23)	42 (20)
Save time	35 (17)	38 (18)	38 (18)
Serve a large number of meals efficiently	40 (19)	31 (15)	34 (16)
Save labour	33 (16)	38 (18)	38 (18)
Low cost	35 (17)	35 (17)	27 (13)

N=48 Respondents
* Respondents awarding a score of 5, extremely important.

The ***five most important product benefits*** from the ones with the scores of 5 were selected by each respondent and were awarded scores according to their ***relative importance*** so that the total score for the five benefits was 100. Table 7.3 shows the total scores for the top ranking product benefits for the three product types.

The benefits fell into two groups. The four most important in the first group were 'Customer Oriented Benefits' including *value for money, satisfy customer demand, low cost* and *quality for purpose.* The most important benefit for all product types was *value for money.* This was followed by *satisfy customer demand* for raw beef products and *quality for purpose* for both of the other beef product types.

The next group of benefits were all 'Chef Oriented' including *minimal wastage, to save labour, to save time,* and *to serve a large number of meals efficiently.* The total scores for these were close together for all three product types. For pre-cooked products *to save labour* and *to serve a large number of meals efficiently* were more important than for the other two product types reflecting the high degree of convenience offered.

Table 7.3: Relative Importance of Product Benefits for the Three New Beef Product Types

Rank	Raw Products (Total Scores*)	Prepared Ready-to-Cook Products (Total Scores*)	Pre-cooked Products (Total Scores*)
Customer Oriented Benefits			
1	Value for Money (991)	Value for Money (905)	Value for Money (746)
2	Satisfy Customer Demand (701)	Quality for Purpose (700)	Quality for Purpose (653)
3	Low Cost (611)	Satisfy Customer Demand (680)	Satisfy Customer Demand (616)
4	Quality for Purpose (583)	Low Cost (598)	Low Cost (561)
Chef Oriented Benefits			
5	Minimal Wastage (331)	Minimal Wastage (363)	Save Labour (369)
6	Save Labour (290)	Save Labour (346)	Serves a Large Number of Meals Efficiently (351)
7	Save Time (255)	Save Time (225)	Minimal Wastage (292)
8	Serve a Large Number of Meals Efficiently (221)	Serve a Large Number of meals Efficiently (213)	Save Time (259)

N=48 Respondents
* Sum of the scores awarded by all respondents.

Apart from the first product benefit, *value for money,* a 'Customer Oriented Benefit', the rankings of the product benefits by total scores differed for the three types of new beef products.

7.2 Product Risks

A comparison of the perceived risks for the five product concepts was made and correlations with the menu planning decision makers' interest in trying the products obtained.

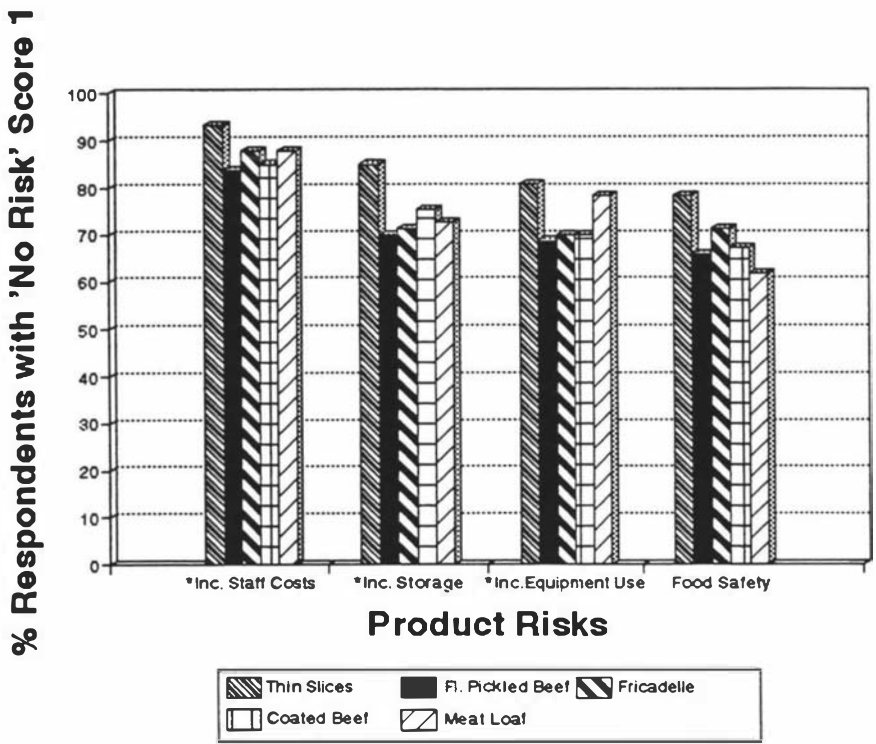
7.2.1 Identification of Product Risks for Individual Products

In Survey 1 the menu planning decision makers scored the risks for each of the five product concepts on a five point scale, from 'No Risk' (score 1) to 'Very High Risk' (score 5). The risks scored were; too high use of one piece of equipment, increased storage capacity required, increased staff costs, chefs' skills reduced, poor peer recognition, failure of the product in the marketplace, high financial losses and food safety risk (see Section 3.6.2). The product concepts with lowest risks were identified in terms of the percentages of respondents awarding the 'No Risk' score of 1. Those product concepts receiving low percentages of 'No Risk' scores were considered to be higher risk.

All of the product concepts were considered to be low risk. The highest proportion of 'No Risk' scores awarded by respondents were for *increase in staff costs, increase in storage requirements, increased use of one piece of equipment* and *increased risk of food safety* (see Figure 7.2). For these risks there was little difference between the five product concepts. For risks of *financial loss, poor peer recognition, reduction of the chefs' skills and product failure in the marketplace* the proportion of 'No Risk' scores decreased for all five product concepts (see Figure 7.3).

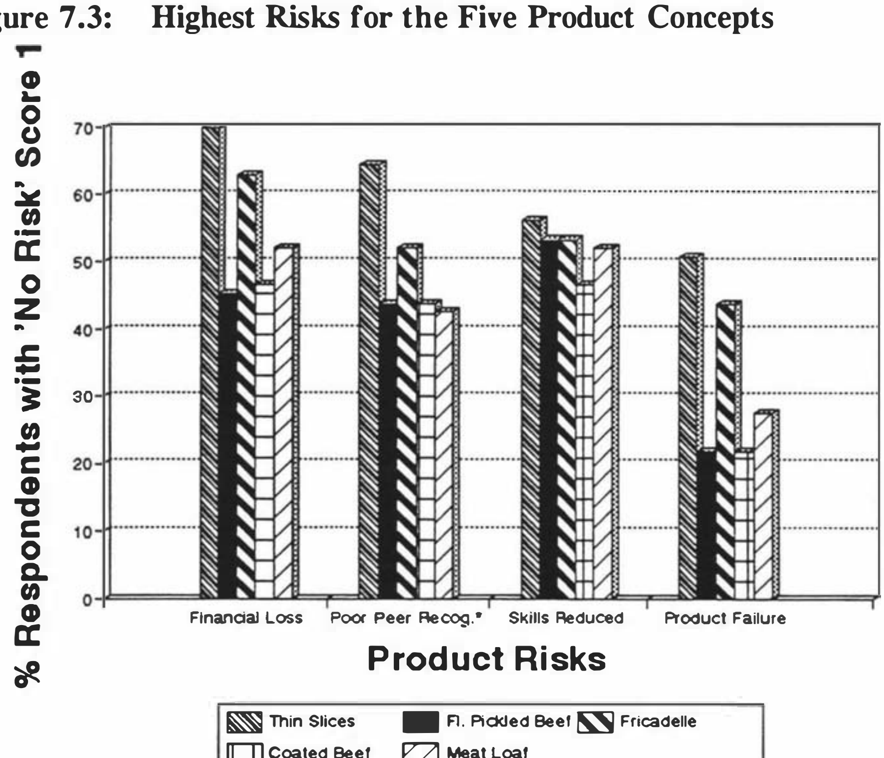
Overall, tender beef in thin slices performed the best with the Fricadelle following close behind. The other three product concepts performed almost equally, the meat loaf marginally better than the other two.

Figure 7.2: Lowest Risks for the Five Product Concepts



* Inc. = Increased N=73 Respondents

Figure 7.3: Highest Risks for the Five Product Concepts



* Recog. = Recognition N=73 Respondents

7.2.2 Relationship between Product Risks and Interest in Trying the Product

Table 7.4 shows the correlations between the scores for each risk and interest in trying the product for each product concept. All risks had negative correlations with interest and some were significantly correlated at the 5% significance level when either risk was low and interest was high or risk was high and interest low.

Table 7.4: Correlations between Interest in Trying the Product and Product Risks

Product Risk	Tender Beef	Flavoured Pickled Beef	Fricadelle	Meat Loaf	Coated Beef Product
Product failure	0.01*	0.00*	0.00*	0.00*	0.00*
Poor peer recognition	0.00*	0.03*	0.04*	0.03*	0.16
Food safety	0.04*	0.01*	0.03*	0.08	0.88
Increased staff costs	0.00*	0.81	0.01*	0.28	0.13
Skills reduction	0.12	0.36	0.00*	0.03*	0.21
High financial losses	0.00*	0.04*	0.08	0.47	0.23
Increased storage	0.52	0.08	0.37	0.01*	0.06
Increased use of one piece of equipment	0.00*	0.31	0.08	0.69	0.34

* Values correlated at 5% significance level.

Significant correlations between interest in trying the product and perceived risks were obtained for risk of *product failure in the marketplace* for all five product concepts. In addition significant correlations between interest in trying the product and *poor peer recognition* were obtained for four of the product concepts, but not the coated beef product. The tender beef in thin slices showed significant correlations for four additional risks; *increased use of one piece of equipment, increased staff costs, high financial losses* and *food safety*. The Fricadelle showed significant correlations for three additional risks; *increased staff costs, food safety* and also *skills reduction*. The flavoured pickled beef showed significant correlations for two additional risks; *high financial losses* and *food safety*. The meat loaf showed significant correlations for two additional risks; *skills reduction* and *increased storage.*

The coated beef product was not viewed in the same way as the other product concepts by the menu planning decision makers. There was only one significant correlation between interest and risk for this product concept, the risk of *product failure in the marketplace.*

7.3 Company-Specific Factors: Positioning the Products within the Foodservice Operations

Factors relating to the foodservice company which affected the respondent's decision to try the product were investigated.

7.3.1 Outlet Types and Meal Periods

In Survey 1 the respondents identified the outlets in which they would use each of the five products and also the meals periods for which they thought the products suitable.

A summary of the most suitable outlet types nominated for the products is provided in Table 7.5. Bistros were the most frequently nominated outlets for the tender beef in thin slices, the flavoured pickled beef and the meat loaf. Public bars were the second most popular outlet for the flavoured pickled beef and the meat loaf while a wider range of outlets including public bars, general restaurants and functions/banquets were almost equally popular for the tender beef in thin slices. Public bars were nominated more frequently, followed by bistros, for the Fricadelle and the coated beef product.

Table 7.5: Outlet Types Suitable for the Product

Outlet Type	Tender Beef % (Number) of Outlets	Flavoured Pickled Beef % (Number) of Outlets	Fricadelle % (Number) of Outlets)	Meat Loaf % (Number) of Outlets	Coated Beef Product % (Number) of Outlets
Bistros	39 (40)	42 (35)	29 (22)	37 (29)	33 (22)
Public Bars	15 (15)	24 (20)	42 (32)	36 (28)	39 (26)
Functions/ Banquets	14 (14)	7 (6)	4 (3)	5 (4)	3 (2)
General Restaurants	17 (17)	14 (12)	11 (8)	14 (11)	13 (9)
Coffee Shops/ Family Restaurants	6 (6)	2 (2)	3 (2)	3 (2)	2 (1)
Speciality Restaurants/Food Courts	4 (4)	5 (4)	3 (2)	0 (0)	2 (1)
Fine Dining	4 (4)	2 (2)	1 (1)	1 (1)	0 (0)
Staff Canteen	2 (2)	2 (2)	5 (4)	5 (4)	6 (4)
Room Service	1 (1)	1 (1)	3 (2)	3 (2)	3 (2)
N=Number of Respondents	*70*	*61*	*63*	*57*	*55*
Number of Outlets	*103*	*84*	*76*	*78*	*67*

The most suitable meal periods nominated for the products are given in Table 7.6. The tender beef in thin slices, the flavoured pickled beef and the meat loaf were all considered almost equally suitable for lunch and dinner while the Fricadelle and the coated beef product were considered more suitable for lunch.

Both the outlet types and the meal periods nominated for the products indicated that the Fricadelle and the coated beef product were thought of as low priced fast food items most suitable for service at lunch-time in public bars and bistros. The tender beef in thin slices, flavoured pickled beef and the meat loaf were seen to be suitable for both lunch and dinner and all were nominated for relatively high use in bistros with the tender beef in thin slices having a wide appeal over a greater range of outlet types.

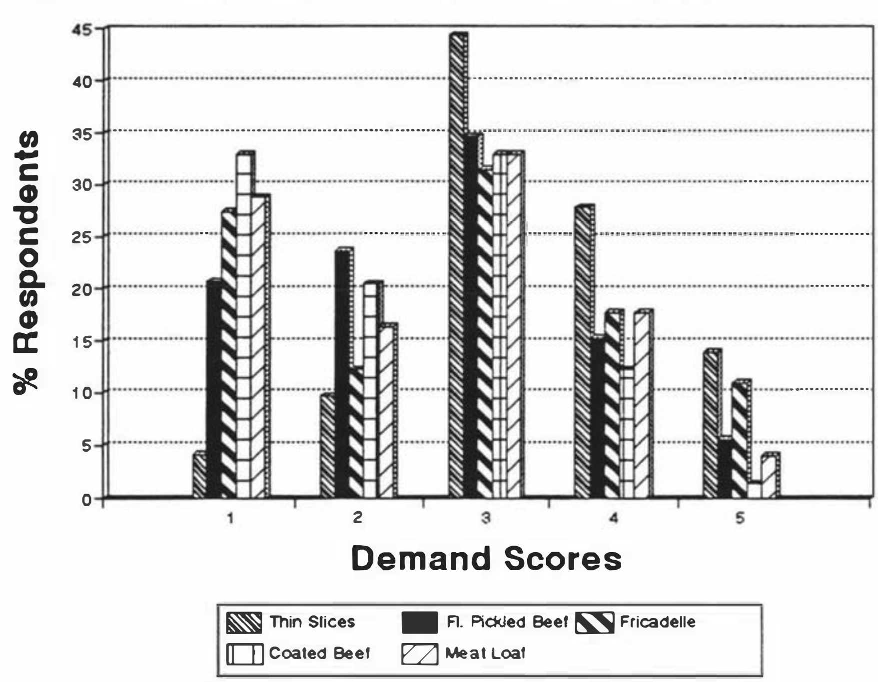
Table 7.6: Meal Periods Suitable for the Product

Meal Period	Tender Beef % (Number) of Responses	Flavoured Pickled Beef % (Number) of Responses	Fricadelle % (Number) of Responses	Meat Loaf % (Number) of Responses	Coated Beef Product % (Number) of Responses
Breakfast	0 (0)	2 (2)	3 (3)	0 (0)	2 (2)
Lunch	45 (53)	47 (53)	57 (55)	52 (51)	50 (48)
Dinner	48 (57)	45 (50)	29 (28)	45 (44)	32 (31)
Supper	6 (7)	6 (7)	11 (11)	3 (3)	17 (16)
N=Number of Respondents	*68*	*63*	*61*	*58*	*5*
Total Number of Responses (Meal Periods)	*117*	*112*	*97*	*98*	*97*

7.3.2 Predicted Demand for the Products

The frequency distribution of the respondents' scores is shown in Figure 7.4.

Figure 7.4: Predicted Demand for The Five Products



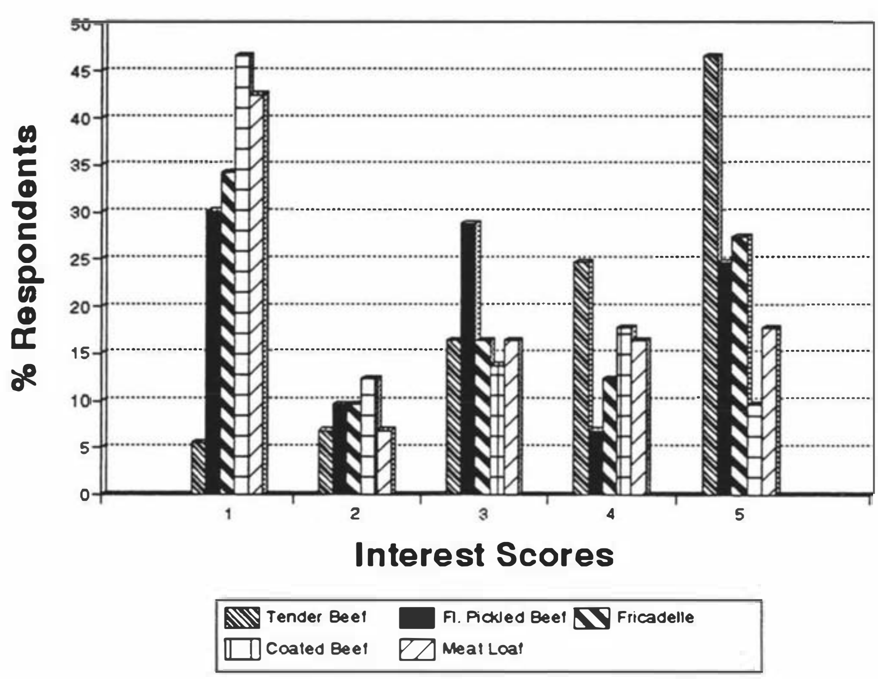
N=73 Respondents (N=72 for the Thin Slices and the Flavoured Pickled Beef)

The respondents scored each of the product concepts in terms of the likely demand for dishes made with the product using a five point scale, no demand for dishes (1) to very high demand for dishes (5). Frequency distributions of respondents' scores for the tender beef in thin slices and flavoured pickled beef were both normal with their peaks at moderate demand (score of 3) while for the other three product concepts they were bi-modal peaking at no demand and moderate demand (score of 3).

7.3.3 Interest in Trying the Products

The respondents were requested to score each of the product concepts in terms of interest in trying the product using a five point scale, not interested (1) to very interested (5). The distribution of scores is shown in Figure 7.5.

Figure 7.5: Interest in Trying the Five Products



N=73 Respondents

The frequency distribution of interest in trying scores was skewed peaking at 5 for the tender beef in thin slices, tri-modal for the flavoured pickled beef and the

Fricadelle with peaks at no interest, moderate interest (score of 3) and a great deal of interest (score 5). For the coated beef product and the meat loaf the distributions were skewed with one major peak at no interest.

7.3.4 Predicted Demand, Interest in Trying, and Need for the Product

The tender beef in thin slices had the highest predicted demand, interest in trying the product and need followed by the Fricadelle, the flavoured pickled beef, the meat loaf and finally the coated beef product. A summary of the respondents' scores is provided in Table 7.7.

Table 7.7: Demand, Interest and Need Scores for the Five Product Concepts

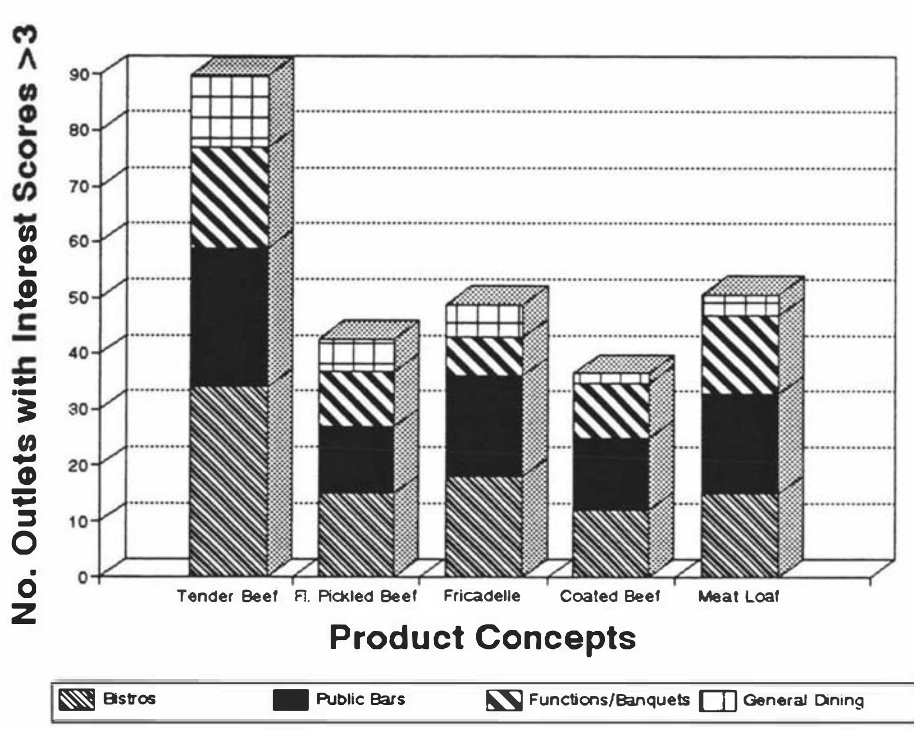
Demand, Interest and Need Scores	Product Concepts				
	Tender Beef in Thin Slices % (Number) Respondents	Fricadelle % (Number) Respondents	Flavoured Pickled Beef % (Number) Respondents	Meat Loaf % (Number) Respondents	Coated Beef Product % (Number) Respondents
Demand Scores >4	42 (30)*	29 (21)	21 (15)*	22 (16)	14 (10)
Demand Scores >3	86 (62)*	60 (44)	56 (40)*	55 (40)	47 (34)
Interest Scores >4	71 (52)	40 (29)	32 (23)	34 (25)	27 (20)
Interest Scores >3	88 (64)	56 (41)	60 (44)	51 (37)	41 (30)
Need Scores >4	44 (32)	29 (21)	25 (18)	26 (19)	16 (12)
Need Scores >3	79 (58)	59 (43)	60 (44)	53 (39)	48 (35)
N=73 Respondents	* N=72 Respondents				

Significant positive correlations between interest, demand and need were obtained at, or better than the 5% significance level for all the product concepts.

7.3.5 Relationship between Hotel/Motel Outlet Profiles and Interest in Trying the Product

The menu planning decision makers with the greatest interest in trying the tender beef in thin slices and flavoured pickled beef were from operations with a high proportion of bistros followed by public bars and functions/banquets. Those who were interested in trying the more highly processed products, the meat loaf and the coated beef product, had almost equal proportions of public bars, functions/banquets and bistros in their operations. Figure 7.6 summarises the relative proportions of the major outlets in the hotels/motels from which the respondents awarded scores > 3 for interest in trying the products. This clearly shows the prevalence of bistros and public bars.

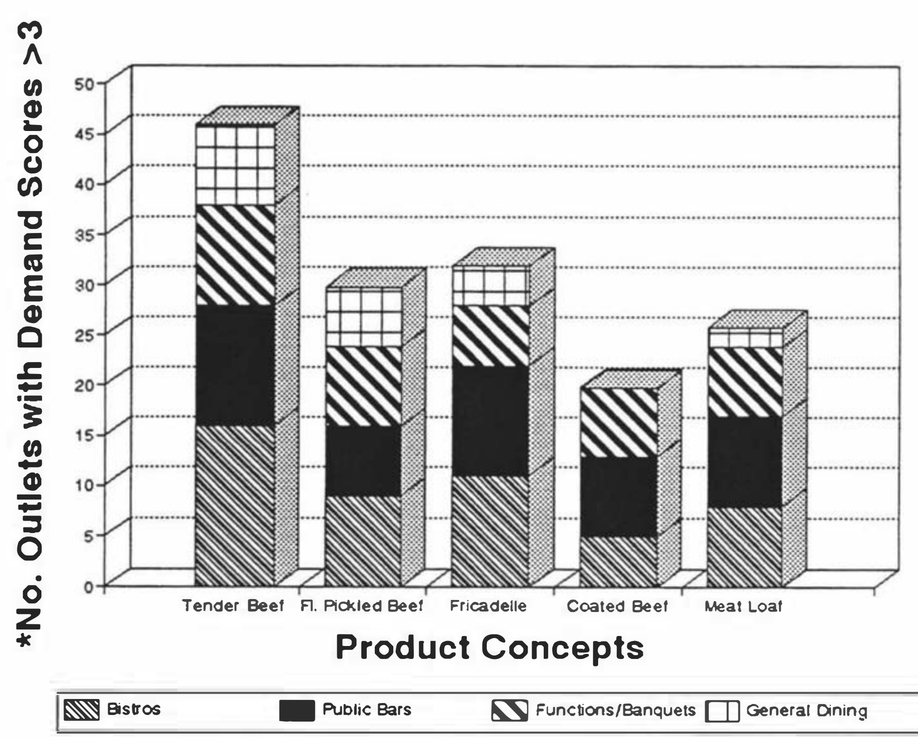
Figure 7.6: Outlet Types Related to Interest in Trying the Five Products



* Number of outlets in operations of respondents who scored interest in trying the product with scores >3.
N=73 Respondents

A slightly different pattern was obtained when the outlets in the hotel/motel operations were matched against demand for the product. The highest demand scores (> 3) were from respondents from operations with almost equal proportions of public bars, bistros and functions/banquets for all product concepts while the lower demand scores (< 3) were from operations with more bistros and more of the general dining outlets. Figure 7.7 summarises the relative proportions of the major outlets in the hotels/motels from which the respondents awarded scores > 3 for predicted demand for the products.

Figure 7.7: Outlet Types Related to Predicted Demand for the Five Products

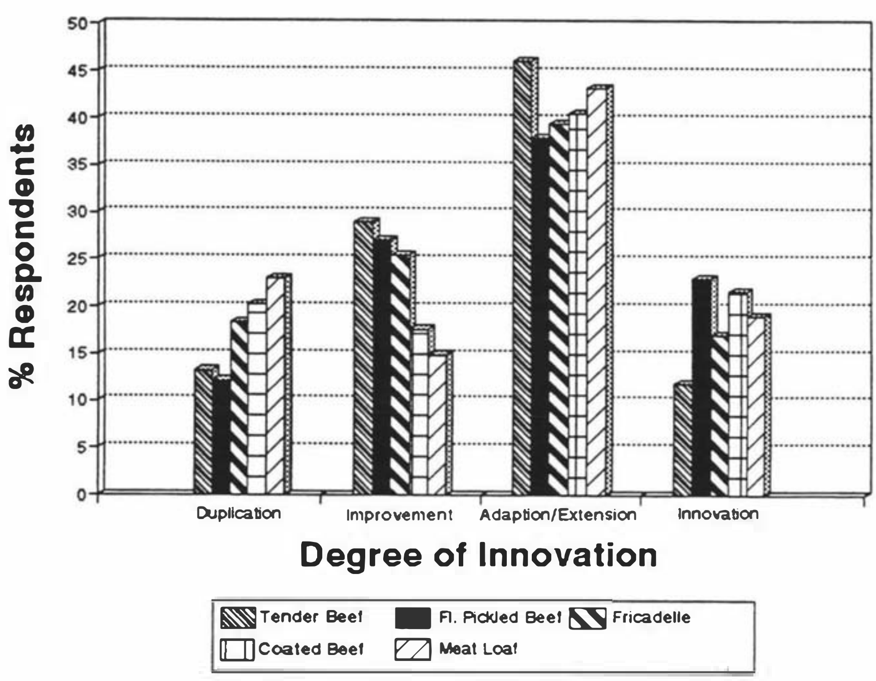


* Number of outlets in operations of respondents who scored interest in trying the product with scores >3.
N=72 Respondents

7.4 Degree of Innovation

In Survey 1 the respondents were asked how they saw the products; as an innovation, a duplication of products already available, an improvement on products already available or an adaptation or extension of a line of products already available. The majority of respondents saw the product concepts as adaptations or extensions of lines already available. The tender beef in thin slices was not regarded as innovative, but as an adaptation, extension or improvement of existing products. The other four products were more often regarded as an innovation but were seen as duplications by some of the respondents. Figure 7.8 shows the frequencies of the 'degree of innovation' responses for the five product concepts.

Figure 7.8: Degree of Innovation for the Five Product Concepts



N=73 Respondents

7.5 Factors Affecting Product Concept Evaluation

Product benefits and risks were both important factors to consider in product concept evaluation, but in conjunction with oneanother rather than in isolation. The menu planning decision makers also had to consider the suitability of the products for the types of outlets in their operations and the meal periods which they served.

7.5.1 Product Benefits

The product concept provides only a description from which to judge the products and some of the menu planning decision makers found the product benefits, especially *versatility, value for money* and *quality,* difficult to assess without seeing or trying the product.

*** Product Benefits Sought for the Three Product Types**

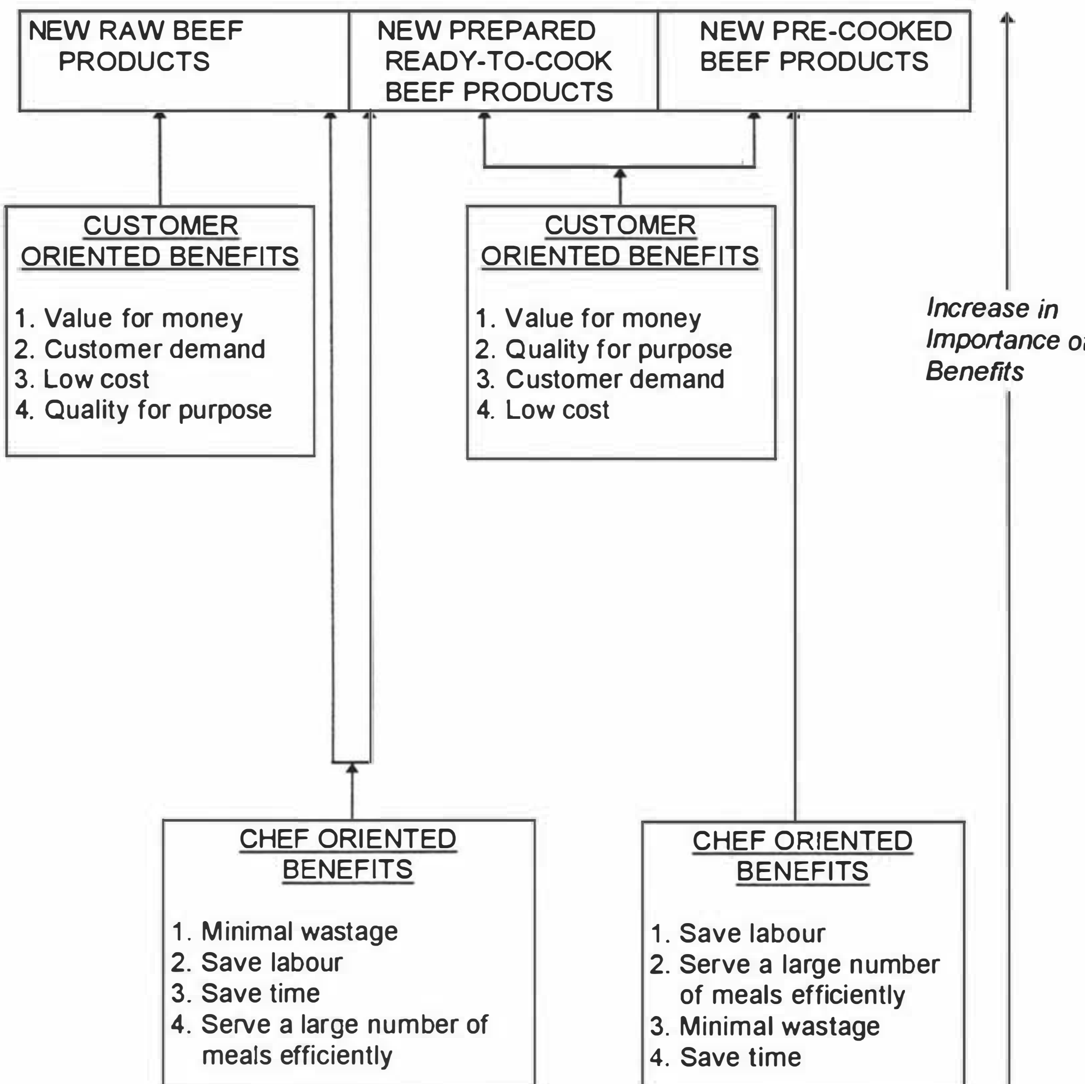
For the three types of new beef products the four most important benefits sought had a customer orientation. *Value for money* was of greatest importance for all three product types and the other three benefits in this group emphasised the relationship between *value for money, cost* of the product, *quality for purpose* and the need *to satisfy customers*. Benefits with a chef orientation, while considered important by the majority of menu planning decision makers, were secondary to customer oriented benefits. The order of importance of the product benefits for the three product types is shown schematically in Figure 7.9.

*** Product Benefits Important in Product Concept Evaluation**

The major determining factor for interest was shown to be *need* for all of the product concepts. Other product benefits determining interest were shown to depend upon the product type with *value for money* and *versatility* being of the greatest significance (see Appendix 25) and *to save time* for the tender beef in thin slices, and *quality for purpose* for the prepared ready-to-cook and pre-cooked products.

Thus menu planning decision makers in deciding to try a new beef product considered *value for money, quality for purpose* and the need *to save time* as proposed in Hypothesis H4, as well as *versatility* and *need* for the product. Further the relative importance of product attributes varied across the three types of purchase situation; raw products, prepared ready-to-cook products and pre-cooked products, as proposed in Hypothesis H2.

Figure 7.9: Relationships Between the Most Important Product Benefits for the Three New Beef Product Types



For the coated beef product the lack of significant correlations between benefits and interest in trying may be indicative of the unusual construction of the product and the difficulty in recognising it as representative of a particular product type. The inclusion of a sauce between the two beef patties, and the entire product coated in breadcrumbs, may constitute a product type beyond a simple beef product. It may be seen as a ***prepared complete main course*** not requiring the addition of sauces, which even the meat loaf would need before service. It may not be representative of the product type with which it was identified.

Indeed the coated beef product may be seen as being too innovative for hotels and motels in their present stage of purchasing value-added beef products. Thus the identification of these five product concepts with product types may be affected by the degree of innovation offered by the product as well as the level of processing.

The benefits offered by a product, therefore, are important in the early stages of product interest and can affect intentions of the menu planning decision makers in relation to the product.

7.5.2 Product Risks

All the product concepts were considered to be low risk and all risks were negatively correlated with interest in trying the products. The major risk factor for all five of the product concepts was *failure of the product in the marketplace. Poor peer recognition* was the next most important risk for all the product concepts with the exception of the coated beef product. This links with the concern expressed by the menu planning decision makers in the exploratory market research to maintain their professional status in terms of their opportunities to be creative, maintain their skills and keep their job satisfaction. Another related risk which also showed significant negative correlation with interest in trying the product was the risk of *skills reduction* for both the Fricadelle and the meat loaf. Both of these are products which only have to be cooked or re-heated leaving chefs very little scope for creativity and maintenance of their skills. The two raw beef products, tender beef in thin slices and flavoured pickled beef, did not show any significant correlations between skills reduction and interest, possibly because the work done on these two products was not considered to be essential for skills maintenance, taking away only the task of cutting the raw beef and not being too restrictive of creativity or of opportunities to use a variety of skills.

High use of one piece of equipment and *increased staff costs* were important risks for both the tender beef in thin slices and the Fricadelle. These two risks may be related to each other as the preferred cooking methods for both the tender beef in thin slices (stir frying or pan frying) and the Fricadelle (grilling) require a chef to attend to the cooking continuously, unlike for the flavoured pickled beef (for boiling or roasting) and the meat loaf (for re-heating). The risks of *high financial losses* and *food safety* were also significantly negatively correlated with interest in trying the tender beef in thin slices and the flavoured pickled beef, both of which are chilled products and have a shorter shelf life than the other three products which are all frozen.

As observed in relation to product benefits the coated beef product with its unusual construction may not have been identified with a particular product type to which the menu planning decision makers could easily relate hence the lack of significant correlations between the risks, other than *failure of the product in the marketplace,* and interest.

Thus menu planning decision makers, as proposed in Hypothesis H5, were more reluctant to try a new beef product the higher they perceived the risk. The important risks were shown to be dependent upon the type of new beef product. Despite these relationships and low risk ratings, for most of the risks for the five product concepts, there were groups of the menu planning decision makers who still showed no interest in trying the products indicating the dominance of other factors in their decision making (see Appendix 26). Thus, while the incorporation of risk assessment is important, it cannot be used independently as a means of assessing likely interest in new beef products.

7.5.3 Product and Company-Specific Factors

For the raw beef products, tender beef in thin slices and the flavoured pickled beef, the outlets predicted for use of the products were mostly *bistros* while for the prepared ready-to-cook and pre-cooked products, the Fricadelle, coated beef product and the meat loaf, the outlets preferred were mostly *public bars*. Public bar menus are usually limited, have low priced items and the food has to be served quickly, particularly at lunch-time. Value-added products, which are ready-to-cook or re-heat, are, therefore, ideal for these outlets. The raw products, on the other hand, allow for more creativity and, while saving preparation time, still provide scope for additional preparation. These products are most suitable for bistros, functions and general dining but could still be used for public bar meals.

7.5.4 Menu Planning Decision Makers

The menu planning decision makers' *need* for the product was of considerable importance while *knowledge* of the product and *experience* of it in use were not. This indicated that they were prepared to try products which were new to them if they could see a need.

7.6 Supplier Relationship

When suppliers require evaluation of new beef products valuable feedback from menu planning decision makers can be obtained particularly in relation to need for the product, product benefits and risks, and interest in trying the products. Need for the product was important for the five product concepts in this study and links with the need *to satisfy customer demand* for the three product types. *Value for money* was important for all five product concepts, was the most important benefit for the three product types and was linked to *quality for purpose* and *cost*. Thus an assessment of the following benefits for all three product types is recommended at the product concept evaluation stage:

* *need for the product/satisfy customer demand;*
* *value for money;*
* *quality for purpose;*
* *cost.*

In addition an assessment of other product benefits are important for particular new beef product types including *minimal wastage* for raw products, *to save labour* for prepared ready-to-cook products and pre-cooked products and the *efficient service of a large number of meals* for pre-cooked products.

Risk assessment for all three new beef product types should be carried out for:

* *failure of the product in the marketplace;*
* *poor peer recognition;*
* *skills reduction;*

but in conjunction with an assessment of the aforementioned product benefits. Further, interest in trying the product should also be determined when the product concepts have been finalised.

7.7 The New Beef Product Adoption Model Stage 2: Product Concept Evaluation

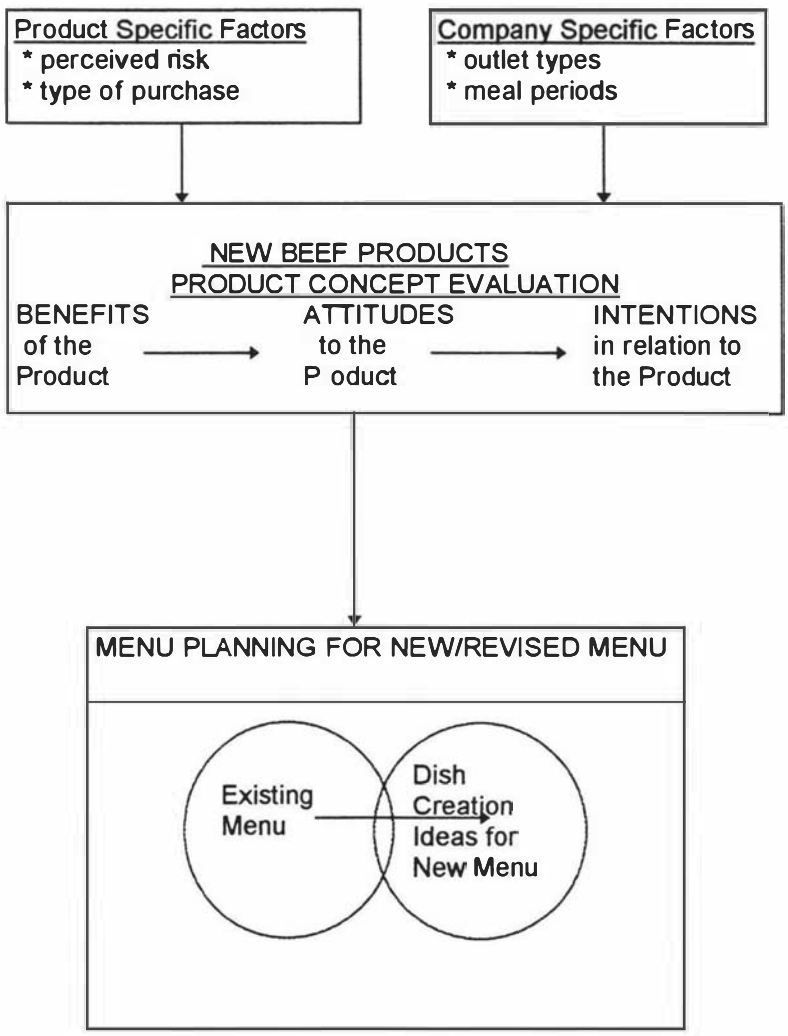
The evaluation of new product concepts is a complex process. Menu planning decision makers not only have to assess the benefits a product will offer and the likely risks involved in using it for their own needs but must also consider the final consumers, their customers, and what they want. They must think in terms of their own product development process, deciding how to use the product, how to incorporate it into new dishes for their menu, which outlets to use it in and for which meal periods it is most suitable. The product concept evaluation stage is shown schematically in Figure 7.10.

7.8 Selection of Products for Development

The tender beef in thin slices received the highest scores for *demand* followed by, in order, the Fricadelle, the flavoured pickled beef, meat loaf and the coated beef product. A similar sequence was noted for *need* and for *interest* in trying the product, once again the tender beef in thin slices receiving the highest scores. Interest was significantly positively correlated with both *demand* and *need* for these products. The tender beef in thin slices, therefore, was clearly the preferred product while the Fricadelle was just ahead of the other three products as the second preference. It was decided to take the tender beef in thin slices and the Fricadelle into the development of the prototype products.

Figure 7.10: The New Beef Product Adoption Process

Stage 2 - Product Concept Evaluation



CHAPTER 8
PROTOTYPE TRIAL

The two product concepts were developed into prototypes in association with the two meat companies. The tender beef in thin slices was a fresh raw beef product requiring tight specifications for cutting. The Fricadelle was a processed product involving product formulation studies.

The product design specifications for the tender beef in thin slices were developed in conjunction with recipe development undertaken by chefs at Victoria University of Technology using different cuts of beef. The Fricadelle was developed by means of planned formulation experiments, and small sensory panels were used to optimise the formulation. For both product prototypes large consumer trials were conducted using hotel bistro simulations.

The menu planning decision makers, most of whom were chefs, were provided with samples of both the new sliced beef product and the Fricadelle for evaluation (see Section 3.6.4). They were asked to evaluate the product characteristics, identify the benefits and risks in the products and to predict if they would buy the product.

8.1 Product Testing Methods

The specifications for the tender beef in thin slices and the Fricadelle were finalised and production of the prototypes was undertaken to provide samples for the consumer trials and menu planning decision maker trials. The consumer trials were carried out before the menu planning decision maker trials in order to check acceptability of the product with the final consumer before offering it to the direct purchasers, the menu planning decision makers, who would be using the product.

8.1.1 Products

*** Tender Beef in Thin Slices**

Initially the product was to be produced in two forms: thin strips and thin slices. This was done for the consumer trials but, as the design specifications for the thin slices had been developed so that they could be readily cut into strips the final product prototype for the chef trials was *Tender Beef in Thin Slices*. For the consumer trials the thin slices were machine cut from topside to the specified dimensions of length breadth and thickness. The thin strips were hand cut and were 68% thicker (5 mm instead of 3 mm thick) than specified.

	Tender Beef in Thin Strips		**Tender Beef in Thin Slices**	
Product Dimensions	**Requested**	**Actual (Average)**	**Requested**	**Actual (Average)**
Length	5 - 7 cm	7 cm	15 cm	19 cm
Breadth	1.5 - 2 cm	1.5 cm	10 cm	10 cm
Thickness	3 mm	5 mm	2 mm	2 mm

Prior to cutting the muscles had been aged for 14 days in cryovac packs and tempered to -3 °C for 24 hours. Each pack was labelled with the '*PRS*' code for prime steer, the product name, the date of packing, a recommended use by date, net pack weight and a bar code.

Recipe development was used as part of the design process to optimise the product characteristics. Dish suggestions obtained at the product concept evaluation stage were used and recipes tested with the product samples.

For the menu planning decision maker trials the product was presented in a cryovac package containing 25 slices, each slice weighing approximately 40g. Total pack weight was approximately 1 kg. The product was machine cut from prime steer topside as close to the specified dimensions of length, breadth and thickness as the muscle size would allow. The topside muscles used were lean and well trimmed.

*   **Fricadelle**

A basic formula suited to the ingredients and equipment used by the meat processing company was the starting point for planned experiments. This formula was refined to achieve optimal physical and sensory characteristics consistent with the product concept description. The final decision for prototype production was made by the meat processing company management after sensory testing of the product samples at their processing plant.

The prototype was produced, frozen and packaged on the factory production line. It was packed into cartons of 60 units to be used for the consumer trials and into sample packs of 6 Fricadelles to be used for the menu planning decision makers' trials. In the latter case the product was placed on polystyrene trays, covered with a transparent plastic film and labelled with the name of the product, number of portions, portion weight, ingredients list, use by date, recommended storage temperature and the name and address of the meat processing company.

Dimensions of the Fricadelle

Product Dimensions	**Requested**	**Actual**
Length	16 cm	14 cm
Breadth	6.2 cm	7 cm
Thickness	0.9 cm	0.9 cm

8.1.2 Consumer Trials

Two types of consumer trials were conducted:

- consumers were recruited for a complimentary meal in a simulated hotel bistro setting;
- consumers purchased the product (Fricadelle only) offered on a hotel bistro 'Specials' menu.

For the simulated hotel bistro trials, a total of 232 consumers were used and all completed the necessary questionnaire. Details of the consumer profiles are provided in Table 8.1.

Table 8.1: Consumer Profiles

Consumer Profile	Simulated Hotel Bistro			Operating Hotel Bistro
	Teriyaki Beef % (Number) of Consumers	Beef and Mushroom Roulades % (Number) of Consumers	Fricadelle % (Number) of Consumers	Fricadelle % (Number) of Consumers
Age				
< 20 years	0 (0)	0 (0)	23 (26)	7 (2)
20 - 34 years	45 (22)	61 (43)	56 (62)	57 (16)
35 - 49 years	43 (21)	28 (20)	14 (15)	7 (20
50 - 64 years	12 (6)	11 (8)	7 (8)	21 (6)
> 64 years	0 (0)	0 (0)	0 (0)	7 (2)
Frequency Eat Beef				
> once a week	71 (35)	76 (54)	NA	NA
about once a week	18 (9)	18 (13)	NA	NA
2 - 3 times a month	10 (5)	6 (4)	NA	NA
< once a month	0 (0)	0 (0)	NA	NA
Frequency Eat Beef Burgers				
at least once a fortnight	NA	NA	69 (77)	43 (12)
about once a month	NA	NA	19 (21)	7 (2)
once every 2 - 3 months	NA	NA	8 (9)	25 (7)
< once every 3 months	NA	NA	4 (4)	25 (7)
Frequency Eat in Hotels/Motels				
at least once a fortnight	51 (25)	51 (36)	52 (58)	71 (20)
about once a month	37 (18)	35 (25)	32 (36)	11 (3)
once every 2 - 3 months	10 (5)	14 (10)	13 (14)	14 (4)
< once every 3 months	2 (1)	0 (0)	3 (3)	4 (1)
N= Number of Consumers	*N=49*	*N=71*	*N=111*	*N=28*

NA Question Not Applicable

The commercial hotel bistro involved a voluntary questionnaire and although a total of 150 Fricadelles were sold only 28 consumers (19%) completed the questionnaire. In the latter case the numbers were too small to complete statistical analysis.

*** Consumer Trials in a Simulated Hotel Bistro**

For the **tender beef in thin slices,** a choice of two main course dishes were offered to the consumers; Teriyaki Beef, a stir fry dish made from tender beef in thin strips, and Beef and Mushroom Roulades, a braised beef dish made from tender beef in thin slices. Both dishes were served with rice and snow peas. A total of 121 consumers tried the two dishes, 49 ordered Teriyaki Beef and 72 ordered Beef and Mushroom Roulades.

For the **Fricadelle,** a choice of two main course dishes were offered to the consumers; Fricadelle in a salad filled roll with french fries or two Fricadelles served with salad and french fries. A total of 111 consumers tried the two dishes; 52 ordered the Fricadelle in the salad roll served with french fries and 59 ordered the two Fricadelles served with salad and french fries.

For both products the dishes had been developed from ideas provided by the menu planning decision makers at the product concept evaluation stage.

*** Consumer Trials in an Operating Hotel Bistro**

The Fricadelle was offered on the Specials menu in a hotel bistro in a Melbourne suburb. The product was described on the Specials board as:
"Fricadelle Beef and Bacon Patty $6.50 including salad - served in our square meal bread with bacon and tomato."

The questionnaire was given to the consumers when they purchased the dish. Over a period of 5 weeks, from mid-November to mid-December 1994, 150 Fricadelles were consumed with 120 sold at lunch time and 30 sold at dinner time. Some of the

Fricadelles were offered to regular customers as complimentary dishes. The consumers were mostly in the 20-34 years age range, half of them eating beef burgers at least once a month and the majority eating out in hotels at least once a fortnight. Most consumers chose the Fricadelle because they wanted to try something different (52%, 16 consumers).

The Fricadelle prototype used for these trials was from the same batch as the prototype used for the simulated hotel bistro trials.

8.1.3 Menu Planning Decision Maker Trials

Survey 3, New Beef Product Evaluation and Adoption, incorporated the trials of the two new beef products with the final questionnaires for their evaluation (see Section 3.6.4).

Thirty-four menu planning decision makers who had participated in Survey 2, New Beef Product Adoption Stages, were used for the product trials. Of these 31 participated in all three surveys, the other three taking part only in Surveys 2 and 3. The 34 operations represented by these menu planning decision makers had a total of 78 outlets.

Number of Outlets	Number of Hotels/Motels
1	9
2	14
3-4	9
5-6	2

These hotels and motels had the following outlet profile:

Outlet Type	Number of Outlets
Bistros	20
Public Bars	16
Function/Banquets	15
General Dining	12
Coffee Shops/Family Restaurants	5
Room Service	5
Staff Canteen	2
Fine Dining	2
Specialised Restaurants/Food Court	1

The products were delivered during November and early December 1994 and the questionnaires collected by appointment to ensure completion.

8.2 Consumer Opinions of the Product Prototypes

Consumers were asked to score the physical and sensory characteristics of their chosen product using the 'Just Right' scale. Each of the scales had five points and had anchors at each end, taking the extremes of the characteristics, and with 'just right' at the centre point (3). Interpretation of this scale involved taking scores of 2, 3 and 4 to be judgements close to what the consumers expected the product to be like with score 3 indicating the number of consumers judging the product to be exactly right. Scores of 1 and 5 at the extremes were taken to indicate that the product was not right. Marked weighting of the scores to one side of the scale, indicated by low proportions of scores of 3 and higher proportions of scores of either 2 or 4, were taken to reflect the need for a slight modification in the product for improvement of the characteristic.

For determination of the acceptability of the product they scored each of the products using the nine point hedonic scale, from dislike extremely (score 1) to like extremely (score 9). They were also asked to record their purchase intentions on a scale from definitely would buy, probably would buy, maybe buy/maybe not buy, probably would not buy and definitely would not buy.

8.2.1 Tender Beef in Thin Slices

*** Physical and Sensory Characteristics**

The results are summarised in Table 8.2 together with comments on the tendencies displayed by the products when 'just right' scores of 3 were awarded by less than 50% of the consumers. As the physical characteristics of the beef used for the two dishes were different the results for the two dishes have been compared rather than combined.

Table 8.2: Consumer Scores for the Physical and Sensory Characteristics of the Tender Beef in Thin Slices and Tender Beef in Thin Strips in Two Dishes

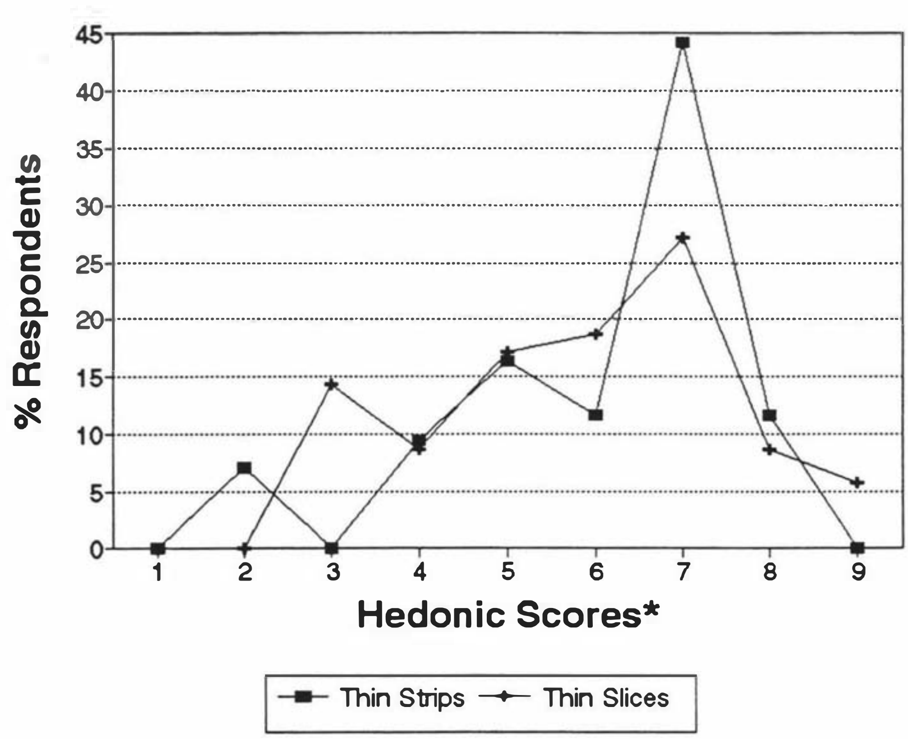
Product Attribute	Scale Descriptors Used		Scores (2-4) % (Number) of Respondents	Score 3 % (Number) of Respondents	Attribute Tendency for < 50% of Respondents awarding Score 3
	Score (1) Extremely ___	Score (5) Extremely ___			
Tender Beef in Thin Slices: Beef and Mushroom Roulades			*N=72* **N=62*	*N=72* **N=62*	
Shape	Irregular	Regular	92% (66)	53% (38)	
Size	Small	Large	96% (68)	40% (29)	Small
Thickness	Thin	Thick	100% (62)*	58% (36)*	
Beef Aroma	Weak	Strong	79% (57)	31% (22)	Weak
Beef Flavour	Weak	Strong	89% (64)	42% (30)	Weak
Tenderness	Tender	Tough	90% (65)	47% (34)	
Tender Beef in Thin Strips: Teriyaki Beef			*N=49* #*N=47* ##*N=40*	*N=49* #*N=47* ##*N=40*	
Shape	Irregular	Regular	88% (43)	55% (27)	
Length	Short	Long	96% (45)#	70% (33)#	
Breadth	Narrow	Wide	95% (38)##	58% (23)##	
Thickness	Thin	Thick	100% (43)	54% (23)	
Beef Aroma	Weak	Strong	82% (40)	20% (10)	Weak
Beef Flavour	Weak	Strong	82% (40)	31% (15)	Weak
Tenderness	Tender	Tough	90% (44)	10% (5)	Tough

The characteristics of the tender beef in thin slices as served in the beef and mushroom roulades were judged by the consumers to be almost right. The beef aroma and flavour were judged to be on the weak side, but the dish did have other quite strongly flavoured ingredients which would have masked them to some degree. In addition the beef slices were considered to be just a little on the small side. However, for the Teriyaki Beef, the beef strips had been hand cut to 5 mm thickness instead of machine cut and the consumers considered the product to be tough.

* **Acceptability**

The hedonic scores awarded for overall eating experience by the consumers are shown in Figure 8.1. Hedonic scores for appearance, flavour and texture for the two dishes are provided in Appendix 27.

Figure 8.1: Consumer Scores for Overall Eating Experience for the Tender Beef

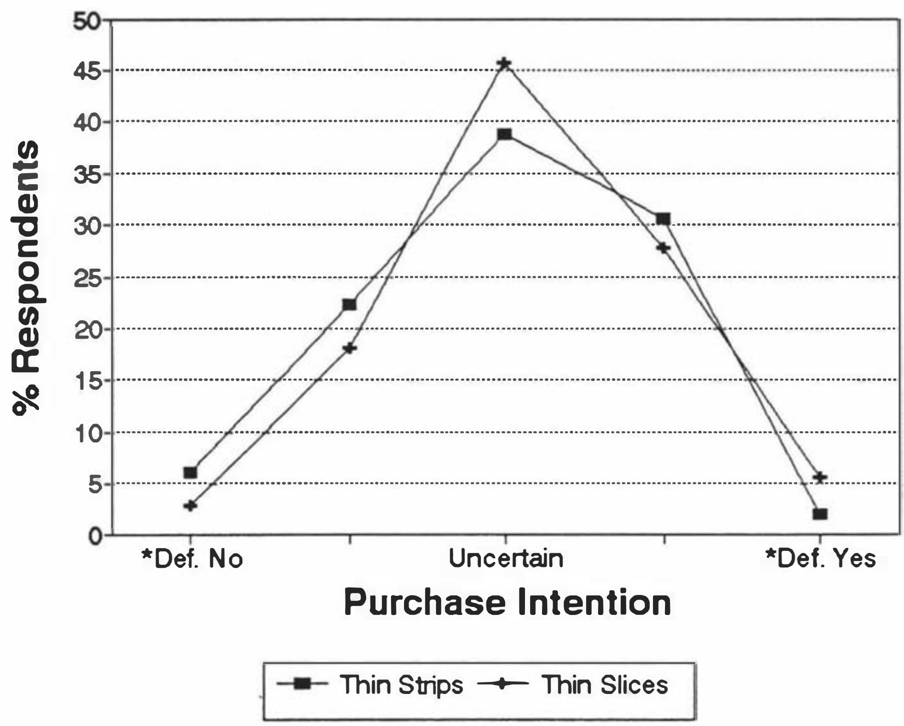


* Scores on the Hedonic Scale used in this and subsequent figures range from (1) dislike extremely to (9) like extremely
N=70 for Thin Slices N=43 for Thin Strips

* **Purchase Intention**

When asked if they would buy a similar dish on a menu in a hotel bistro or restaurant the majority were uncertain (see Figure 8.2). About thirty three percent of the consumers who chose the Teriyaki Beef said they would buy it and 39% were not sure while 33% of the consumers who chose the Beef and Mushroom Roulades said they would buy similar dishes and 46% were not sure.

Figure 8.2: Consumer Purchase Intentions for the Tender Beef in Thin Slices and in Thin Strips



* In this and subsequent tables utilising the same scale the following apply: Def. No - Definitely would not buy the product
Def. Yes- Definitely would buy the product
N=72 for Thin Slices N=49 for Thin Strips

8.2.2 Fricadelle

* **Physical and Sensory Characteristics**

The results are summarised in Table 8.3. For both dishes the Fricadelles were cooked for the same length of time and on the same grill plate. Aroma and flavour were judged weak. In both dishes the Fricadelle was judged to have a tendency to be too thin, tender, and moist. However, while the Fricadelle in the roll was judged to be just right for crumbliness, when served without the roll, the two Fricadelles were considered to be a little on the crumbly side.

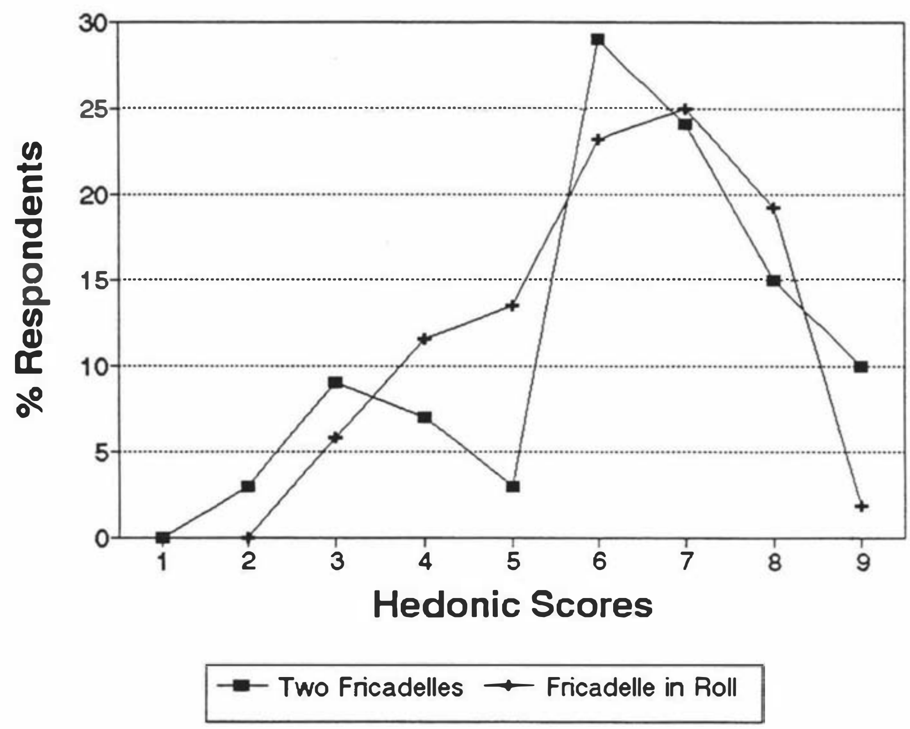
Table 8.3: Consumer Scores for the Physical and Sensory Characteristics of the Fricadelle in Two Dishes

Product Attribute	Scale Descriptors Used		Scores (2-4)	Score 3	Attribute Tendency for < 50% of Respondents awarding Score 3
	Score (1) Extremely ___	Score (5) Extremely ___	% (Number) of Respondents	% (Number) of Respondents	
Fricadelle - In a Roll			*N=52*	*N=52*	
Colour	Pale	Dark	100% (52)	71% (37)	
Size	Small	Large	98% (51)	54% (28)	
Thickness	Thin	Thick	83% (43)	31% (16)	Thin
Aroma	Weak	Strong	87% (45)	48% (25)	Weak
Flavour	Weak	Strong	90% (47)	29% (15)	Weak
Tenderness	Tender	Rubbery	79% (41)	31% (16)	Tender
Crumbliness	Crumbly	Firm	92% (48)	69% (36)	
Moistness	Dry	Moist	87% (45)	46% (24)	Moist
Fricadelle - Two Served			*N=59* **N=58*	*N=59* **N=58*	
Colour	Pale	Dark	100% (59)	73% (43)	
Size	Small	Large	100% (59)	68% (40)	
Thickness	Thin	Thick	95% (55)*	43% (25)*	Thin
Aroma	Weak	Strong	83% (49)	34% (20)	Weak
Flavour	Weak	Strong	85% (50)	46% (27)	Weak
Tenderness	Tender	Rubbery	75% (44)	42% (25)	Tender
Crumbliness	Crumbly	Firm	90% (53)	44% (26)	Crumbly
Moistness	Dry	Moist	83% (49)	44% (26)	Moist

* **Acceptability**

The hedonic scores awarded for overall eating experience by the consumers are shown graphically in Figure 8.3. Hedonic scores for appearance, flavour and texture for the two dishes are provided in Appendix 27.

Figure 8.3: Consumer Scores for Overall Eating Experience for the Fricadelle

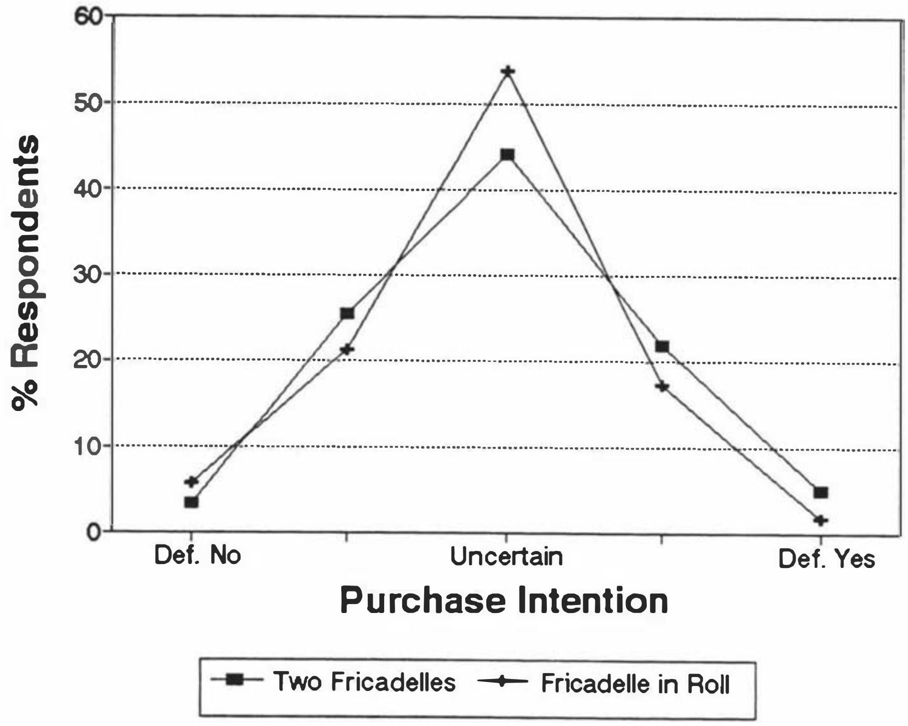


N=59 for Two Fricadelles N=52 for Fricadelle in Roll

* **Purchase Intentions**

As for the tender beef in thin slices when asked whether they would buy a similar dish on a menu in a hotel bistro or restaurant the majority were uncertain (see Figure 8.4). Twenty three percent of the consumers who tried the Fricadelle said they would definitely or probably buy the product, while 49% of them were not sure. The greater proportion of the consumers who said they would buy the Fricadelle had chosen to have two served with salad and french fries (16 consumers).

Figure 8.4: Consumer Purchase Intentions for the Fricadelle

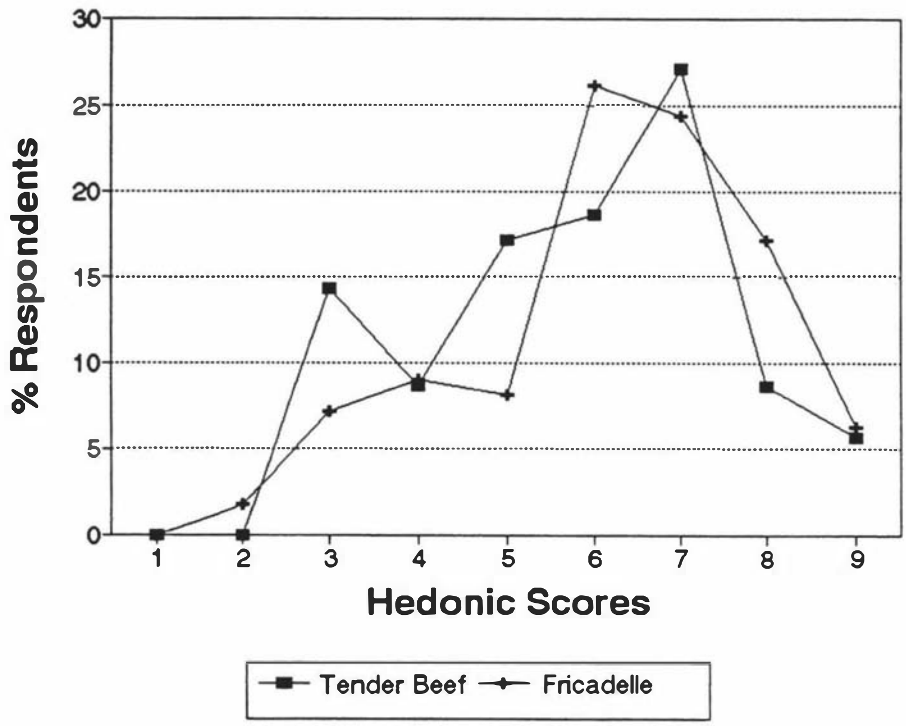


N=59 for Two Fricadelles N=52 for Fricadelle in a Roll

8.2.3 Comparison of Acceptability of Tender Beef in Thin Slices and the Fricadelle

The consumers scored the products for overall eating experience and also scored them for appearance, flavour and texture. The hedonic scores awarded for overall eating experience are shown in Figure 8.5. When the liking scores were totalled for each of the sensory characteristics the proportions were as shown in Table 8.4. Texture and appearance were the limiting sensory attributes for the Tender Beef in Thin Slices while for the Fricadelle all of the sensory attributes appeared to be equally acceptable.

Figure 8.5: Consumer Hedonic Scores for the Two New Beef Products



N=70 for the Tender Beef in Thin Slices N=111 for the Fricadelle

Table 8.4: Consumer Hedonic Scores for Liking of the Two Products

Product Sensory Attribute	Liking Scores (6-9) for Tender Beef in Thin Slices % (Number) of Respondents	Liking Scores (6-9) for the Fricadelle % (Number) of Respondents
Overall Eating Experience	60 (42)*	74 (82)
Overall Appearance	62 (44)	69 (77)
Overall Flavour	71 (51)	71 (79)
Overall Texture	60 (43)	71 (79)

N=72 Respondents
* N=70 Respondents

8.3 Menu Planning Decision Makers' Opinions of the Product Prototypes

In Survey 3, New Beef Product Evaluation and Adoption, the menu planning decision makers scored the physical and sensory characteristics of the two products. They also scored acceptability of the two products and recorded their purchase intentions. The same scales were used as in the consumers' questionnaires.

8.3.1 Tender Beef in Thin Slices

*** Physical and Sensory Characteristics**

The tender beef in thin slices was evaluated both as a raw product and after cooking. Table 8.5 summarises the results for the physical and sensory characteristics of the product for both forms.

Table 8.5: Menu Planning Decision Makers' Scores for the Physical and Sensory Characteristics of the Tender Beef in Thin Slices

Product Attribute	Scale Descriptors Used		Scores (2-4)	Score 3	Attribute Tendency for < 50% of Respondents awarding Score 3
	Score (1) Extremely	Score (5) Extremely	% (Number) of Respondents	% (Number) of Respondents	
Tender Beef in Thin Slices: Raw Product			*N=34*	*N=34*	
Colour	Red	Brown	91% (31)	56% (19)	
Grain	Coarse	Fine	97% (33)	53% (18)	
Leanness	Fatty	Lean	82% (28)	41% (14)	Lean
Connective Tissue	Large Amount	Small Amount	79% (27)	41% (14)	Small Amount
Shape	Irregular	Regular	88% (30)	62% (21)	
Length	Short	Long	100% (34)	68% (23)	
Breadth	Narrow	Wide	100% (79)	85% (29)	
Thickness	Thin	Thick	85% (29)	50% (17)	Thin
Tender Beef in Thin Slices: Cooked Product			*N=34*	*N=34*	
Aroma	Weak	Strong	97% (33)	53% (18)	
Flavour	Weak	Strong	91% (31)	65% (22)	
Tenderness	Tender	Tough	82% (28)	44% (15)	Normal Distribution
Juiciness	Dry	Juicy	94% (32)	47% (16)	Normal Distribution

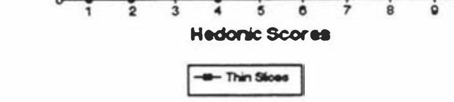
Judgements of the physical and sensory characteristics were close to 'just right'. There was a slight tendency for the tender beef in thin slices to be considered extremely lean and to have an extremely small amount of connective tissue. It was also considered to be very slightly on the thin side. The tenderness and juiciness scores were a little more variable reflecting the inevitable slight variation of these characteristics in individual topside muscles (Lawrie, 1991).

*   **Acceptability**

The menu planning decision makers were asked to score, on the 9 point hedonic scale, their liking of the product in terms of its use within their own foodservice operations. The hedonic scores awarded for overall eating experience are shown graphically in Figure 8.6a. The majority of menu planning decision makers awarded scores >7 indicating acceptance of the product. Hedonic scores for appearance, flavour and texture are provided in Appendix 27.

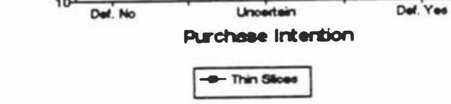
Figure 8.6: Menu Planning Decision Makers' Scores for Acceptability and Purchase Intentions for Tender Beef in Thin Slices

a) Hedonic Scores



N=34 Respondents

b) Purchase Intention



N=32 Respondents

*   **Purchase Intentions**

The menu planning decision makers were asked if they could make a purchasing decision about the product after the trials. Of the 34 respondents 32 said that they could make a decision about each of the products. The products were rated on a scale from definitely would buy, probably would buy, maybe buy/maybe not buy, probably would not buy and definitely would not buy. The results are summarised in Figure 8.6b, the majority of the menu planning decision makers indicating a positive purchase intention.

8.3.2 Fricadelle

*** Physical and Sensory Characteristics**

The Fricadelle was assessed as a cooked product. Table 8.7 provides details of the results for the physical and sensory characteristics. The Fricadelle was considered to be too pale in colour and was slightly on the thin side. The aroma of the cooked product was also slightly on the weak side. Some of the respondents criticised the Fricadelle for its shape and 'spicy' taste. Comments made on the questionnaire at the end of the trials indicated that although the Fricadelle was not heavily criticised there were other reasons for the menu planning decision makers awarding low hedonic scores for the product. The product was not suitable for some operations, it was not like 'homemade' and some chefs preferred to make their own burger style products. These comments indicate a resistance to the use of prepared ready-to-cook products in many operations.

*** Acceptability**

As for the tender beef in thin slices the menu planning decision makers were asked to score, on the 9 point hedonic scale, their liking of the product in terms of its use within their own foodservice operations. The hedonic scores awarded for overall eating experience are shown graphically in Figure 8.7a, the majority of the menu planning decision makers awarding scores around the centre of the scale indicating uncertainty about their acceptance of the product. Hedonic scores for appearance, flavour and texture are provided in Appendix 27.

*** Purchase Intentions**

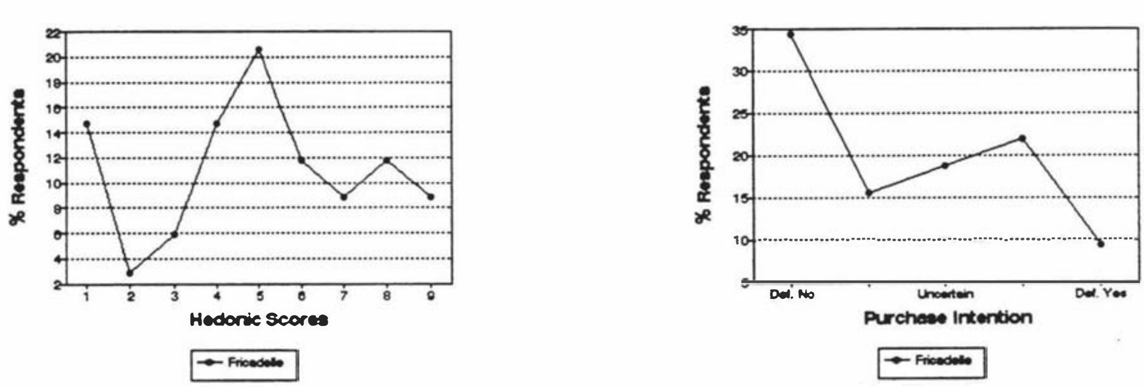
Thirty-two of the 34 respondents said that they could make a purchasing decision about the Fricadelle. They recorded their purchasing decisions using the same scale as for the tender beef in thin slices. The results are summarised in Figure 8.7b, the greater proportion of the menu planning decision makers indicating that they would most likely not buy the product.

Table 8.6: Menu Planning Decision Makers' Scores for the Physical and Sensory Characteristics of the Fricadelle

Product Attribute	Scale Descriptors Used		Scores (2-4) % (Number) of Respondents	Score 3 % (Number) of Respondents	Attribute Tendency for < 50% of Respondents awarding Score 3
	Score (1) Extremely ___	Score (5) Extremely ___			
Fricadelle: Cooked Product			*N=34*	*N=34*	
Colour	Pale	Dark	82% (28)	32% (17)	Pale
Size	Small	Large	97% (33)	71% (24)	
Thickness	Thin	Thick	94% (32)	50% (17)	Thin
Aroma	Weak	Strong	97% (33)	50% (17)	Weak
Flavour	Weak	Strong	88% (30)	59% (20)	
Tenderness	Tender	Rubbery	88% (30)	53% (18)	
Crumbliness	Crumbly	Firm	97% (33)	53% (18)	
Moistness	Dry	Moist	97% (33)	56% (19)	

Figure 8.7: Menu Planning Decision Makers' Scores for Acceptability and Purchase Intentions for the Fricadelle

a) Hedonic Scores **b) Purchase Intention**



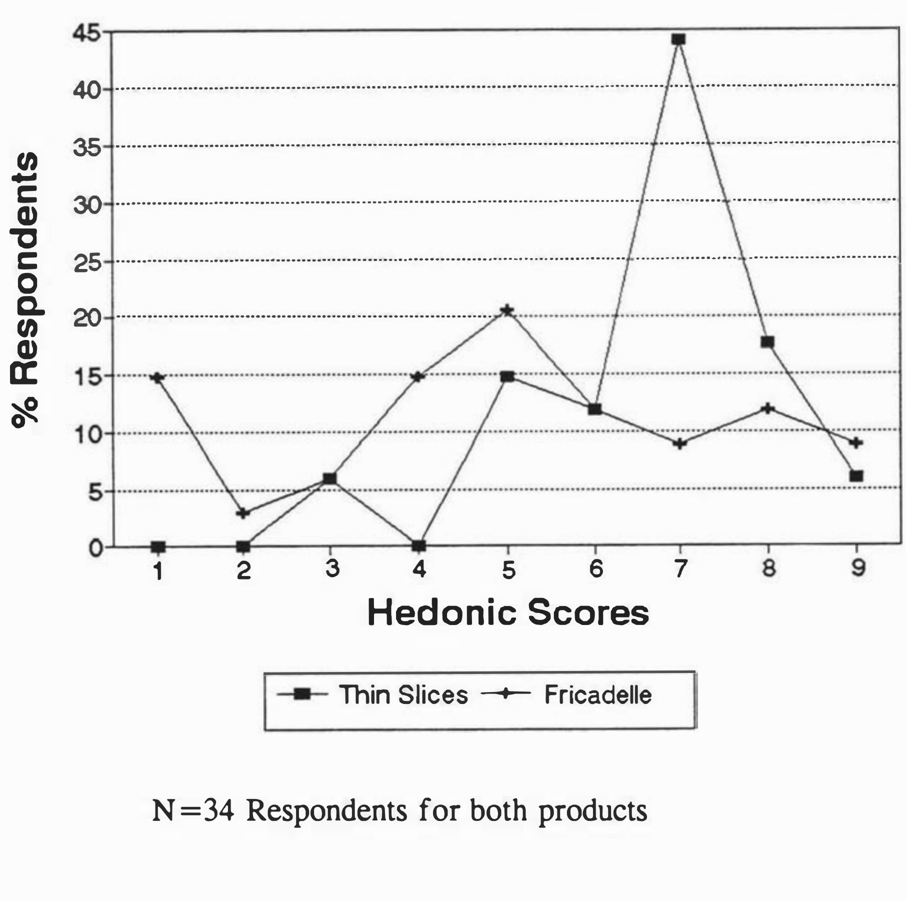
N=34 Respondents N=32 Respondents

8.3.3 Comparison of Acceptability of Tender Beef in Thin Slices and the Fricadelle

The hedonic scores awarded for overall eating experience for both products are shown in Figure 8.8. The liking scores (scores 6-9) were totalled for each of the sensory characteristics and the proportions are shown in Table 8.7. The tender beef in thin slices was liked for all of its characteristics with texture as the limiting factor while the Fricadelle was not liked, none of its characteristics receiving acceptable scores.

The tender beef in thin slices was clearly well liked by the menu planning decision makers for their foodservice operations but the Fricadelle received much lower proportions of liking scores, being considered unsuitable for most of their foodservice operations.

Figure 8.8: Menu Planning Decision Makers' Hedonic Scores for the Two New Beef Products



N=34 Respondents for both products

Table 8.7: Menu Planning Decision Makers' Hedonic Scores for Liking of the Two Products

Product Sensory Attribute	Liking Scores (6-9) for Tender Beef in Thin Slices % (Number) of Respondents	Liking Scores (6-9) for the Fricadelle % (Number) of Respondents
Overall Eating Experience	79% (27)	41% (14)
Overall Appearance	79% (27)	35% (12)
Overall Flavour	79% (27)	50% (17)
Overall Texture	68% (23)	38% (13)
N=34 Respondents		

8.4 Benefits of Product Prototypes

The following product benefits were investigated in relation to the earlier surveys, 1 and 2: *value for money; save time; versatility; quality; need; cost; labour saved; ease of storage; use of equipment saved; ease of preparation; ease of cooking; suitability of batch size; wastage; suitability to serve a large number of meals efficiently; expected demand for dishes; product life cycle expected*. Each benefit offered by each of the two products was scored by the menu planning decision makers using a five point scale, from very low or no benefit (1) to very high or excellent benefit (5). The high scores of 4 and 5 awarded to each product benefit were totalled and the benefits ranked for each of the two new beef products as shown in Table 8.8. As for the previous results from the earlier survey mean scores could not be used because most distributions of the scores were not normal but bi-modal, skewed or almost linear.

The benefits fell into three discernible groups for both products; *'Practical Benefits'*, *'Breadth of Use Benefits'* and *'Economic Performance Benefits'*. The full set of graphs for the product benefit distributions is provided in Appendix 28.

Table 8.8: Ranking of Product Benefits for the Two New Beef Products

Tender Beef in Thin Slices			Fricadelle		
Rank	**Scores (> 3) % (Number) of Respondents**	**Product Benefit**	**Rank**	**Scores (> 3) % (Number) of Respondents**	**Product Benefit**
Practical Benefits			**Practical Benefits**		
1	88 (30)	Low Wastage	1	91 (30)	Ease of Cooking
2=	85 (29)	Ease of Cooking	2	88 (29)	Ease of Preparation
2=	85 (29)	Ease of Storage	3	82 (27)	Low Wastage
4	82 (28)	Ease of Preparation	4	78 (26)	Ease of Storage
5	80 (27)	Time Saved	5	73 (24)	Time Saved
6	77 (26)	Labour Saved	6	70 (23)	Labour Saved
7	71 (24)	Batch Size Suitability	7	64 (21)	Batch Size Suitability
Breadth of Use Benefits			**Breadth of Use Benefits**		
8	65 (22)	Versatility	8	61 (20)	Serves Large No. Meals Efficiently
9=	59 (20)	Saves Equipment Use	9	58(19)	Saves Equipment Use
9=	59 (20)	Serves Large No. Meals Efficiently	10	39 (13)	Versatility
11=	53 (18)	Long Product Life Cycle	11	36 (12)	Long Product Life Cycle
Economic Performance Benefits			**Economic Performance Benefits**		
11=	53 (18)	Value for Money	12	33 (11)	Low Cost
13	50 (17)	Quality	13=	27 (9)	Value for Money
14=	41 (14)	Low Cost	13=	27 (9)	Quality
14=	41 (14)	Expected Demand	15	21 (7)	Expected Demand
16	29 (10)	Need	16	15 (5)	Need
N=34 Respondents					

8.4.1 Practical Benefits

The first group comprised of seven ***'Practical Benefits'*** to the menu planning decision maker. All of the distributions of scores for this group were very similar in shape strongly skewed towards the higher scores. While these first ranking benefits were the same for both products their rank order within each of the groups was different. These scores reflect the main difference in the nature of the two products: the Fricadelle being fully prepared and individually quick frozen so saving on preparation and very easy to cook in the frozen state; the tender beef in thin slices saving on time and labour from cutting the slices and minimising wastage by being already sliced and so relieving chefs of the necessity of utilising off-cuts.

8.4.2 Breadth of Use Benefits

The second group of four ***'Breadth of Use Benefits'*** gave distributions that were bi-modal with the highest peaks in the higher scores. The tender beef in thin slices can be further cut into strips, can have other flavouring ingredients added in the form of marinades and sauces and can be easily used in a variety of dishes so increasing both the ways in which it can be incorporated into the menu and its product life cycle. The Fricadelle has a fixed shape and flavour and so the range of dishes in which it can be used is much more limited.

8.4.3 Economic Performance Benefits

The final group of five benefits were related to the ***'Economic Performance'*** of the products. These distributions were closer to normal distributions with the exception of demand and need which were bi-modal with peaks at the lower end, and in the centre, of the scale.

Past the ninth rank the Fricadelle rated considerably lower than the tender beef in thin slices for all benefits. These differences are indicative of the attitudes of the menu planning decision makers towards the new beef product types to which the two products belong.

8.5 Risks of Prototype Products

In Survey 3 the same product risks were investigated as in Survey 1 and the same type of scale was used. The menu planning decision makers were asked to score the risks for each of the products on a scale from 'No Risk' (score 1) to 'Very High Risk' (score 5). The results are summarised in Table 8.9.

Table 8.9: Risk Scores for the Two New Beef Products

Product Risk	Tender Beef in Thin Slices*		Fricadelle#	
	Score (1) No Risk	Scores (> 3) High Risk	Score (1) No Risk	Scores (> 3) High Risk
High use of one piece of equipment	41 (14)	0 (0)	55 (18)	0 (0)
Increased storage	59 (20)	0 (0)	52 (17)	0 (0)
Increased staff costs	72 (24)	0 (0)	73 (24)	0 (0)
Skills reduction	38 (13)	15 (5)	33 (11)	18 (6)
Poor peer recognition	24 (8)	15 (5)	21 (7)	36 (12)
Product failure	32 (11)	15 (5)	18 (6)	24 (8)
High financial losses	56 (19)	3 (1)	49 (16)	12 (4)
Food safety	65 (22)	6 (2)	52 (17)	9 (3)

*N=34 Respondents #N=33 Respondents

The lowest risks, indicated by high proportions of 'No Risk' scores (1), were for *increased staff costs, food safety, increased storage, financial losses* and *increased use of one piece of equipment* for each of the products. The distributions, provided in Appendix 29, of the risk scores were also very similar in shape for the two products for each of these risks. The three greatest risks for both products were *chefs' skills reduction, product failure in the marketplace* and *poor peer recognition.* However, the risk of *failure of the product in the market place* was higher for the Fricadelle. This indicates that the products were not seen to pose practical or even economic risks, rather the risks were more closely related to the personal factors of professional esteem and pride. The fears of product failure, loss of skills and loss of recognition by professional peers were greater than the risks associated with practical aspects of the business operation.

8.6 Discussion

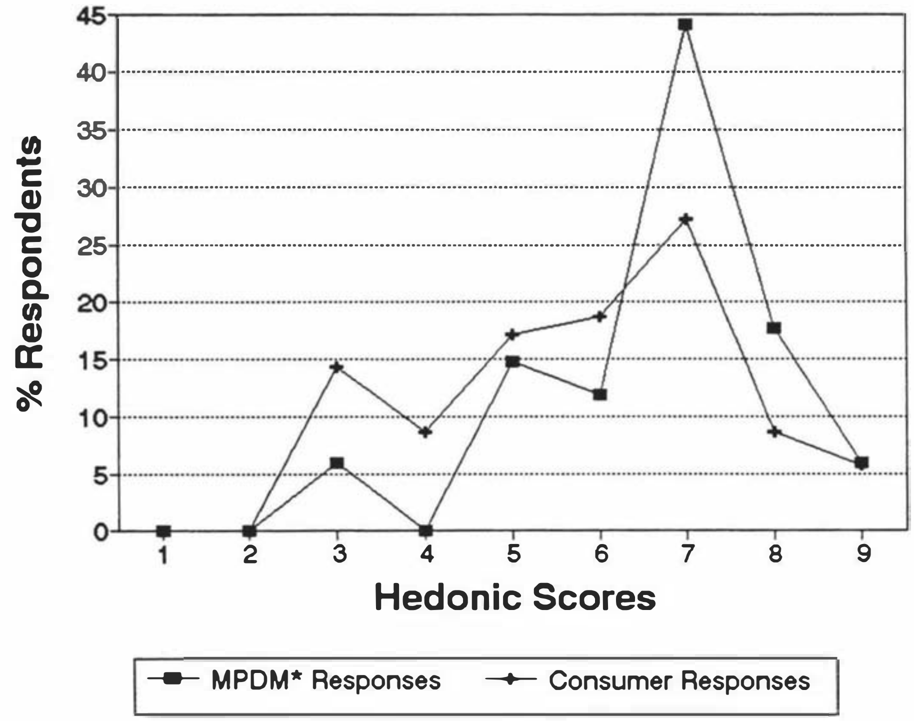
The value of both consumer and menu planning decision maker trials were assessed and the factors affecting purchase intentions elucidated.

8.6.1 Comparison of Consumer and Menu Planning Decision Makers' Overall Eating Experience and Purchase Intentions

In order to compare the same physical product the data for the beef and mushroom roulades were taken to represent consumer response to the **tender beef in thin slices.** While both the menu planning decision makers and the consumers were positive about the product the menu planning decision makers awarded more liking scores (79% scores 6-9) than the consumers (60% scores 6-9), as shown in Figure 8.9. The results of the 'just right' scores show high proportions of both the consumers and the menu planning decision makers approving the physical and sensory characteristics of the product (scores 2-4).

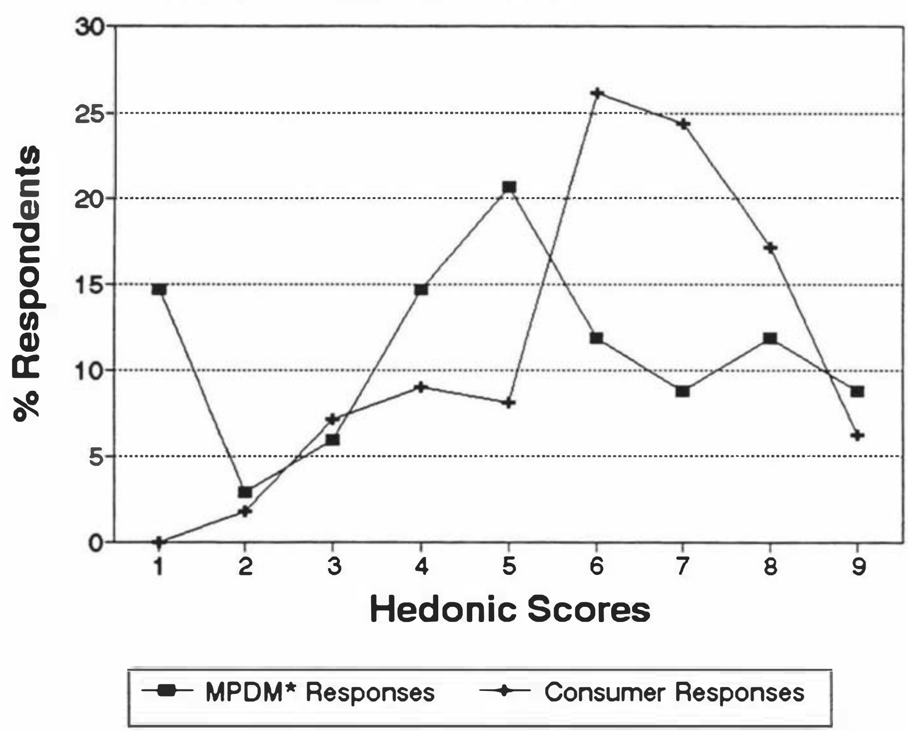
For the **Fricadelle** the consumers awarded more liking scores (74% scores 6-9) for the overall eating experience than the menu planning decision makers (41% scores 6-9) as shown in Figure 8.10. The menu planning decision makers formed three groups, one which did not like the product, one which did, and the largest one which was not sure. When the 'just right' scores are examined it can be seen that both menu planning decision makers and consumers awarded high proportions of scores 2-4 for nearly all of the product characteristics. Notable differences were that the menu planning decision makers thought the product too pale, while the consumers thought the product was slightly too tender and too moist.

Figure 8.9: Menu Planning Decision Makers' and Consumer Hedonic Scores for Overall Eating Experience: Tender Beef in Thin Slices



N=34 menu planning decision makers (MPDM*) N=70 consumers

Figure 8.10: Menu Planning Decision Makers' and Consumer Hedonic Scores for Overall Eating Experience: Fricadelle



N=34 menu planning decision makers (MPDM*) N=111 consumers

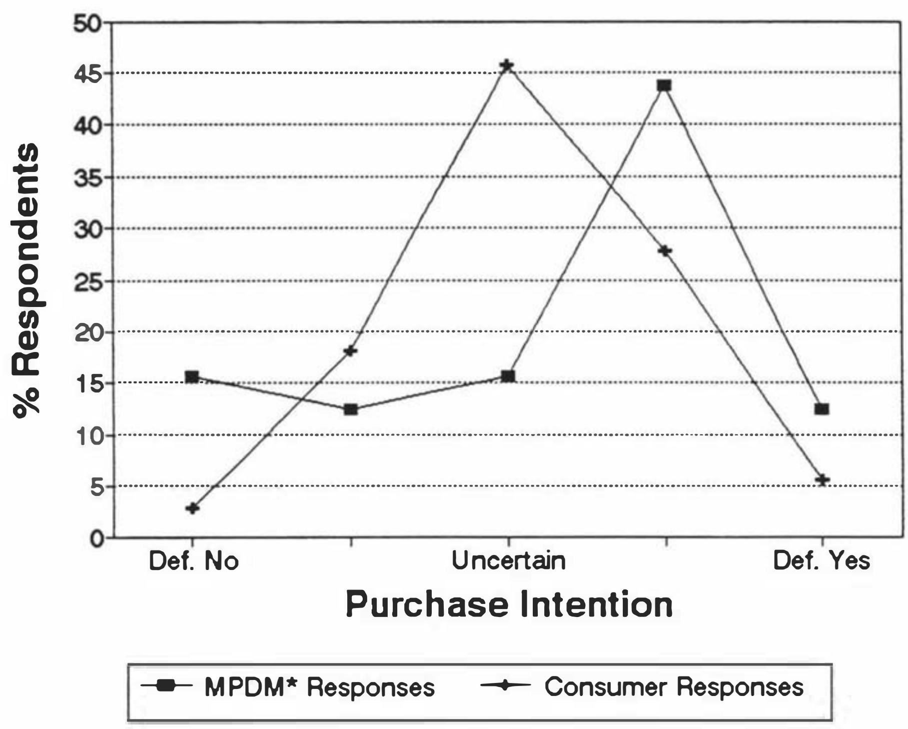
While the menu planning decision makers liked the tender beef in thin slices very much the consumers were more reserved in their judgement. This difference was confirmed by the respective purchasing decisions when the consumers were more cautious and which may be related to the limitations necessarily placed upon consumers in such trials. The menu planning decision makers were provided with the product in a form which they could experiment with, and test, in a variety of ways. Their judgements of the product characteristics and their liking scores were recorded after they had carried out the entire dish preparation and tasting process. They, therefore, had the opportunity to assess the product benefits and risks in relation to their operations. The consumers on the other hand had only the one dish to taste, they were dependent not only upon the way in which it had been prepared and presented but also upon the recipe selected. They did not have the freedom to cook it in their own way or modify the dish to suit their own preference. They were not presented with an innovative dish, nor was it elaborate, it was selected to be representative of dishes likely to be offered on hotel bistro menus. A large number of people had to be served efficiently in a short period of time and this was one of the constraints placed upon the consumer trials. The consumers may not have considered the dish to be exceptional, they may have considered it to be very ordinary and judged it accordingly.

The consumers, who tried the Fricadelle, were presented with only a limited choice of dishes, and yet they still scored the product highly. The opportunities to sample burger products in a variety of dishes are limited for consumers as these products are less versatile than products like the tender beef in thin slices. Consumer expectations were probably, therefore, not as great for this product as for the tender beef in thin slices. In addition, the Fricadelle did offer some innovative characteristics including shape, flavour, and to some extent texture, compared to regular burgers.

In addition, for both products, the consumer and the menu planning decision makers' purchase intentions were different.

For **the tender beef in thin slices** a greater proportion of the menu planning decision makers said that they would buy the product, the consumers were more cautious with the majority remaining uncertain. The purchase decision profiles are provided in Figure 8.11.

Figure 8.11: Menu Planning Decision Makers' and Consumer Purchase Intentions for the Tender Beef in Thin Slices

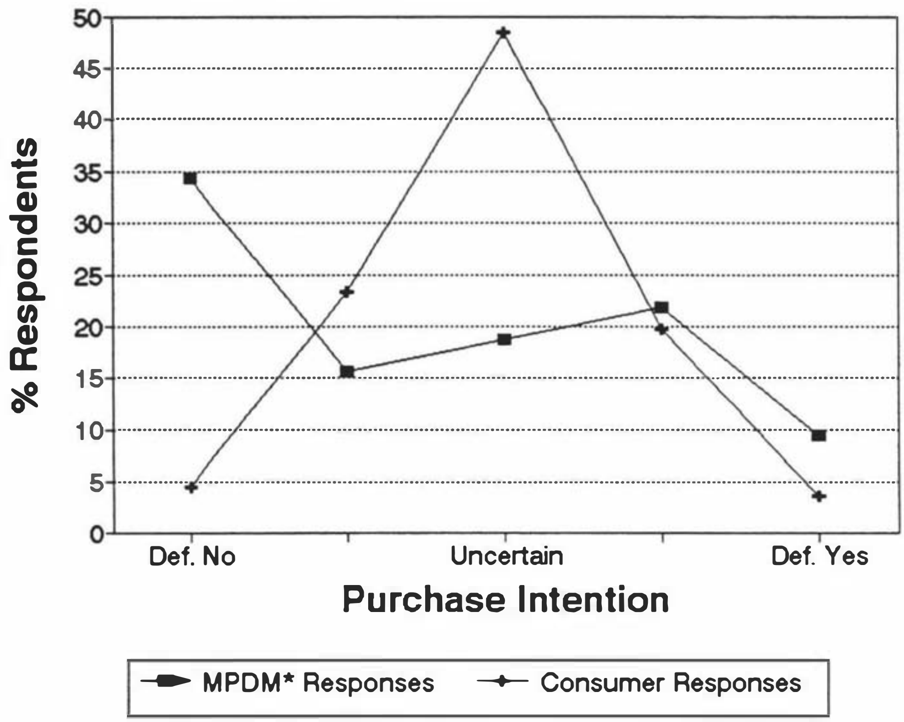


N=32 menu planning decision makers (MPDM*) N=72 consumers

For the **Fricadelle** the menu planning decision makers formed two groups, one which would definitely or probably buy the product and a larger one which would definitely not or would probably not buy the product. The majority of the consumers, however, as with the tender beef in thin slices, were uncertain about their purchase decisions. The purchase decision profiles are provided in Figure 8.12.

There was, then, a major difference in the pattern of decision making between the menu planning decision makers and the consumers. More menu planning decision makers could make decisions to buy or not to buy the products while the majority of consumers were more cautious. This caution may reflect the more restrictive form of test in which the consumers participated, the menu planning decision makers having more freedom to prepare, cook and taste the product.

Figure 8.12: Menu Planning Decision Makers' and Consumer Purchase Intentions for the Fricadelle



N=32 menu planning decision makers (MPDM*) N=111 consumers

The menu planning decision makers, therefore, did not necessarily judge products in terms of liking in the same way as their customers. Indeed, they may have interpreted the term 'liking' in a different way, overlaying it with a complexity of other factors such as benefits and risks, outlet types and customer profiles for which they must make judgements. Thus, judgement of the product characteristics in terms of 'just right' standards may not be, for the menu planning decision makers, indicative of their purchase decisions. Liking of the product may be a better indicator.

8.6.2 The Relationship between Purchase Intention and Product Benefits

Table 8.10 shows positive correlations for the relationships between product benefit ratings and purchase intentions for the products.

Table 8.10: Relationship between the Purchase Intention and Product Benefit Scores for the Two New Beef Products

Product Benefit	Tender Beef in Thin Slices	Fricadelle
Quality	0.04*	0.00*
Need	0.00*	0.00*
Ease of Preparation	0.01*	0.83
Serve a Large Number of Meals Efficiently	0.30	0.02*
Demand	0.12	0.00*
Long Product Life Cycle	0.01*	0.10

* Values correlated at the 5% significance level or better

Significant positive correlations between purchase intention and *need* for the product and *quality* were obtained for both products. *Need* is a critical benefit. The *need* for the Fricadelle was below a critical point necessary to attract a positive purchase intention but, while the *need* for the tender beef in thin slices was still low, it was not low enough to deter a positive purchase response to the product. The greater the *need* for the product and the greater the *quality* of the product the more likely it is that the menu planning decision maker will purchase it. Purchase intention was significantly influenced by *ease of preparation* and *long product life cycle* for the tender beef in thin slices while for the Fricadelle purchase intention was significantly influenced by *serving a large number of meals efficiently* and with expected *demand* for the product. For the Fricadelle the menu planning decision makers did not score expected *demand* for the product very highly and this, together with the low ratings for *need* and *quality,* was reflected in the decision by the greater proportion of the menu planning decision makers not to purchase the product.

These results highlight the differences in attitudes of the menu planning decision makers to the two new beef product types. When they purchase raw products they are not only looking for quality products which they need but also for some relief from having to trim and cut the raw beef themselves. Ease of preparation, therefore, was an important benefit to consider when assessing new raw beef products. In addition products of this type have a longer life cycle because they can be used for a greater variety of purposes than prepared ready-to-cook and pre-cooked products. A long product life cycle is important as it ensures that the product will be used over a long period of time and will not require more work to find an early replacement.

8.6.3 The Relationship between Purchase Intention and Product Risks

The scores the menu planning decision makers gave to the product risks were compared with their purchase intentions and correlation coefficients and significance levels determined. Significant negative correlations showed that, for both products, there was a high risk associated with *poor peer recognition.* The higher this risk the less likely it is that the menu planning decision makers will purchase the product. The greatest risk, then, was associated with the professional pride chefs take in their work and how they are judged by their peers. The majority of the menu planning decision makers, therefore, did want to have their work made easier and were ready to relinquish tasks which they do not consider will take away their skills or undermine their opportunities to be creative. All other risks were insignificant to purchase intention.

8.6.4 Evaluation of the Product Prototype Trial Stage

Consumer trials of the product prototype are necessary to confirm acceptability of a product by the final consumers before trials are conducted by the direct purchasers, the menu planning decision makers. This can be achieved by carrying out hotel bistro simulations where consumers representative of the target market make a selection from a menu offering a limited choice of dishes incorporating the product. Consumer trials cannot be conducted in an operating hotel bistro using extensive questionnaires without offering the consumers attractive incentives. The hotel bistro simulation proved to be a more effective way of obtaining high consumer participation than the operating hotel bistro. Low response rate was a problem in the latter case. An incentive, either in the form of a complimentary meal in the hotel bistro simulation or a voucher for a complimentary food or drink item in the case of an operating bistro, is needed to encourage consumers to participate. In addition, in the operating hotel bistro the questionnaire must be short and the information sought be strictly limited.

Menu planning decision makers have greater scope for evaluation and are more decisive in their evaluation and purchase intentions than consumers, the latter having a much more limited opportunity to evaluate the product within only the single dish chosen from the menu. Menu planning decision makers can not only evaluate the product in terms of the physical and sensory characteristics but are also able to assess benefits and risks of the product in relation to its use in their operation, which in turn influences purchase intention and acceptance of the product for the operation.

8.7 Conclusions

* **The prototype trial stage should include consumer trials utilising a hotel bistro simulation followed by menu planning decision maker trials.**

In order to ensure that the physical and sensory characteristics of the prototype product are suitable, menu planning decision makers should be included in the product concept evaluation stage. Then the consumers, though not direct purchasers of the product, need to evaluate the prototype product as presented in selected menu items in order to provide more information on product characteristics and acceptability. This enables adjustments to be made to the product before the direct purchasers, the menu planning decision makers, evaluate it. A simulated hotel bistro was shown in this study to be the most suitable method of conducting consumer trials. For the menu planning decision makers' prototype trials, not only were the physical and sensory characteristics of the product important but their benefits and risks were also shown to affect purchase intention. Consumers were more cautious of making purchase decisions than menu planning decision makers, even when they judged the physical and sensory characteristics of the product to be 'just right'.

* **Suppliers can obtain valuable feedback for product development from the results of consumer and menu planning decision maker trials.**

For the prototype products in this study recommendations were derived from the results of the consumer and the menu planning decision maker trials.

- The dimensions of the **tender beef in thin strips** produced a product with a tendency to be tough and so was unsuitable for further trials with the menu planning decision makers. The dimensions of the **tender beef in thin slices** offered a more acceptable level of tenderness.
- The tender beef in thin slices was 'just right' in its' physical characteristics and was liked by both the menu planning decision makers and consumers.
- The Fricadelle was almost right in its' physical and sensory characteristics. It needed to be made a little thicker and to have a slight reduction in moisture content including surface moisture in order to darken the colour and to increase firmness and reduce moistness. It was liked by fewer than half the menu planning decision makers but was well liked by the consumers.
- The major differences between the critical product benefits of the two products were for economic performance benefits, the tender beef in thin slices performing much better than the Fricadelle for *need, demand, value for money, quality* and *low cost.*
- Both the products were generally considered to be low risk, although the greatest risks were for *poor peer recognition* and *failure of the product in the marketplace.*

* **The decision to buy a new beef product is based upon *quality* and *need.***

Intention to purchase for both the tender beef in thin slices and the Fricadelle was related to both *quality* of the product and *need* for the product. Thus, as proposed in Hypothesis H4; "Menu planning decision makers in deciding to purchase a new beef product consider quality."

* **Menu planning decision makers are reluctant to buy a new beef product if the risk of poor peer recognition is high.**

Intention to purchase was related to the risk of *poor peer recognition* for both the tender beef in thin slices and the Fricadelle. Thus, as proposed in Hypothesis H5; "Menu planning decision makers are more reluctant to purchase a new beef product the higher they perceive the risk."

CHAPTER 9
ADOPTION

The final stage in the new product adoption process does not end at the first purchase but involves post-purchase evaluation and repeat purchases. This stage was investigated in Survey 3, New Beef Product Evaluation and Adoption, during the product prototype trials in terms of purchase intentions, intentions for the product in use and the factors affecting the decisions made (see Section 3.6.4). This revealed both the willingness of some menu planning decision makers to place new beef products on their menus without further trials and, in the case of those undertaking further trials, what the trials would be and who else would be involved in them. The decision makers for the adoption of the new beef products were also identified. In Survey 2, New Beef Product Adoption Stages, the involvement and influence of personnel in deciding upon purchasing specifications for adoption of the new products were investigated.

Throughout this analysis responses to each of the two new beef products were compared in order to highlight differences in behaviour and attitudes towards the two different product types; raw and prepared ready-to-cook beef products in the new product adoption process.

The steps, followed by menu planning decision makers when undertaking menu planning and which are an integral part of the new beef product adoption process, were identified and their frequency of use obtained (see Section 3.6.3).

9.1 Steps in Menu Planning

The 48 menu planning decision makers were asked to indicate which steps they actually used and how frequently they used them. For frequency of use of the steps a five point scale reflecting use as a percentage of the times that the respondent planned new dishes (0-20%, 21-40%, 41-60%, 61-80%, 81-100% of the time) was used. This provided general indications of the process rather than being outlet or menu specific. In some operations, where the menu was never revised extensively, the steps referred to were those used in the planning of new dishes for the menu rather than for the planning of a complete menu.

9.1.1 Use of Different Steps in Menu Planning

The steps used by the majority of menu planning decision makers, shown in Table 9.1, were all related to the activities which surround the practical development of the dishes in the kitchen.

Table 9.1: Steps Used in Menu Planning by the Majority of Menu Planning Decision Makers

Rank by Use	Steps in Menu Planning	Steps Used % (Number) of Respondents	Steps Used 61-100% of the Time % (Number) of Respondents
1	Costing the Standard Recipe	92 (44)	65 (31)
2	Feedback on Ingredient and Product Performance	81 (39)	65 (31)
3	Ideas for New Dishes	77 (37)	50 (24)
4	Recipe Testing (Dish Trials)	71 (34)	46 (22)
5	Testing Ingredients and Products	69 (33)	40 (19)
6	Choosing Ingredients	60 (29)	35 (17)
7	Evaluating the Trial Dishes	58 (28)	44 (21)
8=	Choosing the Best New Dish Ideas	56 (27)	33 (16)
8=	Completing the New Menu	56 (27)	40 (19)
N=48 Respondents			

The most used steps, costing of the standard recipe and feedback on ingredients and product performance, were also associated with economic performance of the products providing information on cost, quality and value for money.

The steps relating to the development of documentation for the standard recipe including recipe formulation, finalising and writing the standard recipe were used less frequently than the activities surrounding the practical development of new dishes (Table 9.2).

Table 9.2: Steps Used by Menu Planning Decision Makers Relating to Documentation of the Standard Recipe

Rank by Use	Steps in Menu Planning	Steps Used % (Number) of Respondents	Steps Used 61-100% of the Time % (Number) of Respondents
1	Recipe Formulation (Standard Recipe)	48 (23)	25 (12)
2	Finalising the Standard Recipe	46 (22)	35 (17)
3	Writing the Standard Recipe	42 (20)	27 (13)
N=48 Respondents			

The remaining steps related to the menu planning decision makers' relationship with the supplier (Table 9.3). Less time was allocated to activities related to communication with suppliers and particularly to those involving documentation. Thus the practical and economic aspects of menu planning were of greatest significance, recipe documentation and supplier communications taking lesser roles.

The respondents did not use all the steps in menu planning in the same order. The most common sequence was:

1. Ideas for New Dishes (69%, 33)
2. Choosing the Best New Ideas for Testing (36%, 16)
3. Recipe Formulation (27%, 12)

For the fourth step the following were almost equally popular:

* Choosing Ingredients (19%, 8)
* Testing Ingredients (16%, 7)
* Costing the Standard Recipe (14%, 6).

indicating their equally close association with the third step, recipe formulation.

Table 9.3: Steps Used by Menu Planning Decision Makers Relating to Specifications and Suppliers

Rank by Use	Steps in Menu Planning	Steps Used % (Number) of Respondents	Steps Used 61-100% of the Time % (Number) of Respondents
1=	Finding Suppliers	44 (21)	21 (10)
1=	Finalising the Purchasing Specifications	44 (21)	29 (14)
3	Requesting Quotations	42 (20)	30 (14) *
4=	'Make or Buy' Decisions	40 (19)	17 (8)
4=	Finalising the Suppliers	40 (19)	29 (14)
6	Deciding on the Purchase Order Routine	33 (16)	21 (10)
7	Writing Ingredient Specifications	29 (14)	15 (7)
8	Writing Purchasing Specifications	23 (11)	15 (7)
9	Others	2 (1)	2 (1)

N=48 Respondents
* N=47 Respondents

The sequences for the planning of dishes utilising the three different types of new beef product were the same for most respondents.

9.2 Buying Centre Interactions

Buying centre interactions take place when groups of personnel participate in different steps of the menu planning process including dish evaluation, deciding upon purchasing specifications and making of the purchasing decision.

9.2.1 Deciding Upon Purchasing Specifications

The menu planning decision makers were asked to identify the categories of personnel involved in deciding upon purchasing specifications and then to estimate the extent of their involvement and their degree of influence using five point scales; from never involved (1) to always involved (5), and from not influential (1) to very influential (5).

The menu planning decision makers were provided with an extensive list of 20 personnel categories likely to be involved in defining purchasing specifications. Of these only nine categories were identified as having a significant input. Table 9.4 shows the degree of involvement and influence in terms of the highest scores (5) for these nine categories of personnel with the most involvement and influence: Executive Chef; Head Chef; Sous Chefs; Owner Operator; General Manager; Chef Owner/Operator; Food and Beverage Manager; Purchasing Manager; Purchasing Officer.

The personnel identified by the respondents as always involved and very influential in deciding upon purchasing specifications belonged to three groups, in order of both involvement and influence; the Chefs in Charge/Senior Chefs, Management and the Purchasing Department. The Executive Chefs and Head Chefs were the personnel with the most significant input.

The Purchasing Department is usually an organisational feature only found in large operations hence the proportionately lower input of this group. The Chef/Owner Operator has a dual role and may be included in either the Chefs in Charge/Senior Chefs or the Management group.

The remaining eleven groups of personnel were largely kitchen and service staff, most of whom had some involvement at times but were not always involved and had no influence (see Appendix 30).

Table 9.4: Purchasing Specifications: Personnel with the Greatest Involvement and Influence

Personnel	Personnel Involved % (Number) of Respondents	Personnel Always Involved % (Number) of Respondents	Personnel Very Influential % (Number) of Respondents
Chefs in Charge/Senior Chefs			
Executive Chef	50 (24)	48 (23)	48 (23)
Head Chef	50 (24)	46 (22)	48 (23)
Sous Chefs	33 (16)	13 (6)	10 (5)
Management			
Owner Operator	23 (11)	13 (6)	9 (4)
General Manager	19 (9)	8 (4)	8 (4)
Chef/Owner Operator	15 (7)	15 (7)	15 (7)
Food and Beverage Manager	13 (6)	2 (1)	2 (1)
Purchasing Department			
Purchasing Manager	19 (9)	8 (4)	8 (4)
Purchasing Officer	8 (4)	2 (1)	2 (1)
N=48 Respondents			

9.2.2 Dish Evaluation

Personnel involved in dish evaluation also had a role to play in the new product adoption process and were identified as the same groups associated with the writing of purchasing specifications, with the exception of the Purchasing Department.

*** Dish Evaluation (Survey 2, New Beef Product Adoption Stages)**

The involvement and degree of influence of the different categories of personnel were ascertained using five point scales; from never involved (1) to always involved (5), and from not influential (1) to very influential (5). Table 9.5 shows the degree of involvement and influence in terms of the highest scores (5) for the seven categories of personnel with the most involvement and influence: Executive Chef; Head Chef; Sous Chef; General Manager; Owner Operator; Food and Beverage Manager; Chef Owner/Operator. The personnel always involved and very influential in dish evaluation belonged, in order of both involvement and influence, to the two groups, Chefs in Charge/Senior Chefs and Management. The Executive Chefs and Head Chefs were the personnel with the most significant input.

The remaining groups of personnel had little involvement and influence compared to the 'Chefs in Charge' and Management (see Appendix 31).

Table 9.5: Dish Evaluation: Personnel with the Greatest Involvement and Influence

Personnel	Personnel Involved % (Number) of Respondents	Personnel Always Involved % (Number) of Respondents	Personnel Very Influential % (Number) of Respondents
Chefs in Charge/Senior Chefs			
Executive Chef	52 (25)	52 (25)	50 (24)
Head Chef	54 (26)	52 (25)	46 22)
Sous Chefs	56 (27)	21 (10)	17 (8)
Management			
General Manager	42 (20)	19 (9)	17 (8)
Owner Operator	40 (19)	17 (8)	15 (7)
Food and Beverage Manager	33 (16)	8 (4)	10 (5)
Chef/Owner Operator	17 (8)	8 (4)	8 (4)
N=48 Respondents			

* Dish Evaluation (Survey 3: New Beef Product Evaluation and Adoption)

The menu planning decision makers comprised of 31 Executive Chefs and Head Chefs, 2 Owner Operators and 1 Chef/Owner Operator. In order to confirm if the people said to be involved in dish evaluation actually took part in the practical testing of the product prototypes the menu planning decision makers identified the persons, other than themselves, who had helped to evaluate the two prototype products. A wide range of personnel were identified including Head Chefs (when the respondent was the Executive Chef, Chef/Owner Operator or Owner Operator), Sous Chefs, Chefs de Parties, Commis, Apprentices, other kitchen staff, Maitre d'Hotel, service staff, Food and Beverage Managers, General Managers, Assistant Managers, Owner Operators, Purchasing Managers, regular customers and others, e.g. accountants (see Appendix 32). The evaluation roles were largely tasting or tasting and cooking with only a small proportion being involved in costing. The roles of evaluators other than the respondent are summarised in Table 9.6.

Table 9.6: Roles of Personnel (other than the respondents) involved in Dish Evaluation of the Two New Beef Products

Role of Evaluator	Tender Beef in Thin Slices % (Number) of Respondents	Fricadelle % (Number) of Respondents
Tasting	56 (32)	59 (29)
Tasting and Cooking	32 (18)	31 (15)
Cooking	4 (2)	2 (1)
Tasting and Costing	4 (2)	4 (2)
Tasting, Cooking and Costing	5 (3)	4 (2)
	*N=57 responses for 28 operations**	*N=49 responses for 27 operations**
* Multiple responses		

9.3 Intention to Purchase

The respondents were asked if, after testing the prototype product, they could make a decision on buying the product. For both products 32 of the 34 respondents said that they could make a decision with 56% of these saying that they would definitely or probably buy the tender beef in thin slices and 31% saying that they would definitely or probably buy the Fricadelle. The results are summarised in Table 9.7.

When asked who would make the final purchasing decision, in several operations the menu planning decision makers said that more than one person would be involved. For the tender beef in thin slices all personnel involved would be Chefs in Charge/Senior Chefs and/or Management while for the Fricadelle 95% of the personnel would be from these two groups.

Table 9.7: Intention to Purchase

Decisions	Tender Beef in Thin Slices % (Number) of Respondents	Fricadelle % (Number) of Respondents
Purchase Decision	*N=34*	*N=34*
Yes Decision Made	94 (32)	94 (32)
No Decision	6 (2)	6 (2)
Intention To Purchase	*N=32**	*N=32**
Definitely would buy	13 (4)	9 (3)
Probably would buy	44 (14)	22 (7)
Maybe buy/maybe not buy	16 (5)	19 (6)
Probably would not buy	13 (4)	16 (5)
Definitely would not buy	16 (5)	34 (11)
* The number of respondents who could make a purchase decision.		

9.4 Next Step in Adoption

For the majority of the menu planning decision makers the next step in adopting the products would be either to place the product on the menu and/or to carry out further trials. The responses are summarised in Table 9.8.

Table 9.8: Next Step in Adoption

Decisions	Tender Beef in Thin Slices % (Number) of Respondents	Fricadelle % (Number) of Respondents
Next Step in Adoption (Optional multiple response question)	*N=30**	*N=22**
Place the Product on the Menu	57 (17)	41 (9)
Do Further Trials	43 (13)	46 (10)
Other Action	0 (0)	14 (3)
Menu Action (Optional multiple response question)	*N=32 responses for 30 respondents**	*N=23 responses for 22 respondents**
Specials Menu	72 (23)	61 (14)
Main Menu at Next Menu Change	19 (6)	13 (3)
Main Menu Immediately	0 (0)	4 (1)
Other Menu Action	9 (3)	22 (5)
Further Trials (Optional multiple response question)	*N=65 responses for 25 respondents**	*N=39 responses for 16 respondents**
Recipe Development	23 (15)	15 (6)
Costing	14 (9)	10 (4)
Testing of Dishes by Other Staff	15 (10)	23 (9)
Trying out Dishes on Regular Customers	28 (18)	26 (10)
Comparison with Other Similar Products	12 (8)	21 (8)
Discussions with Other Staff	8 (5)	0 (0)
Other Trials	0 (0)	5 (2)

* The number of respondents and responses for each question differed because they were both optional and multiple response questions.

When asked how they would place the products on the menu most of the menu planning decision makers suggested that they would place them on the 'Specials' menu while a smaller proportion said that they would place the products on the main menu either immediately or at the next menu change. The 'Specials' menu is subject to constant change in order to provide regular customers with continuing variety between main menu changes. In this way dishes can be given a trial for a short period before decisions are made about their suitability for the main menu. This is the next stage in the adoption of a new product.

Menu planning decision makers treat new beef products with caution as illustrated by both the number and variety of methods used for further trials, each menu planning decision maker using at least two or three different methods.

Responses for the next stage in the adoption process also reflected the differences in acceptability of the two prototype products. For the tender beef in thin slices 88% of the respondents were prepared to define the next stage in the adoption process compared to only 65% for the Fricadelle. Similarly for the tender beef in thin slices 74% of the respondents identified what further trials they would do compared to 47% for the Fricadelle. For both products the most used method of conducting further trials was to try out dishes on regular customers.

A major difference between responses to the two products was the apparent lack of need for discussions with a group of staff for the Fricadelle. In addition recipe development and costing was less important for the Fricadelle as it was already prepared and the portion cost was known.

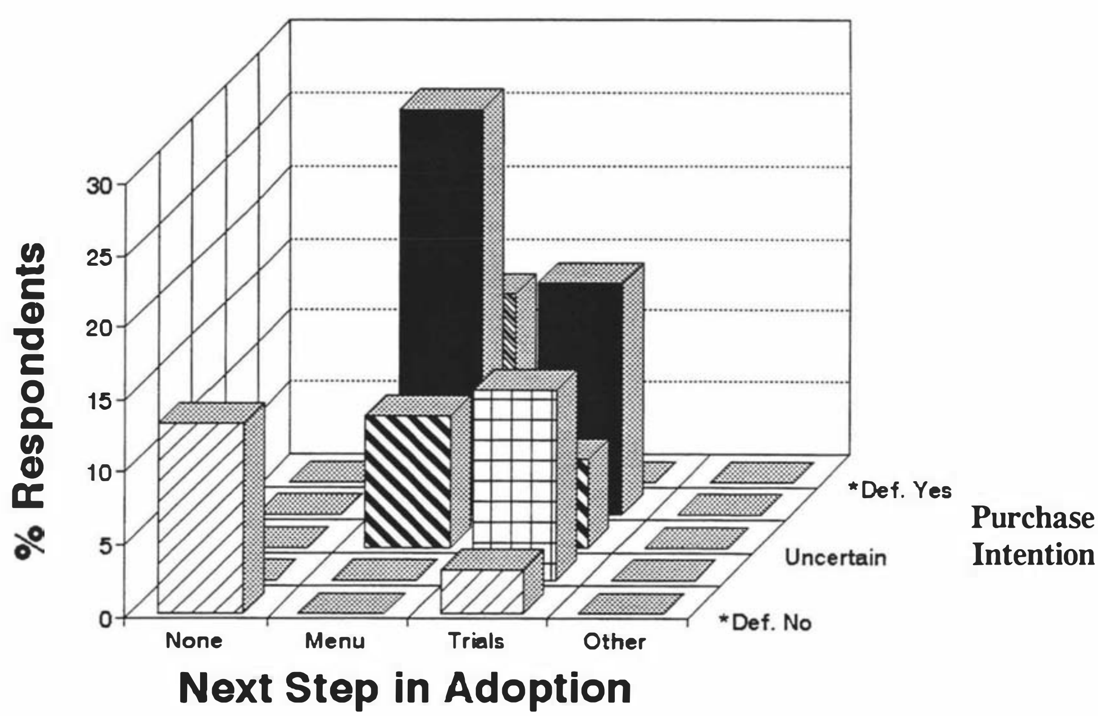
The responses regarding the personnel involved in further trials also showed that chefs would still be the most frequent evaluators (66% for the tender beef in thin slices and 60% for the Fricadelle). The Chefs in Charge/Senior Chefs, (the Executive Chef, Head Chef and Chef Owner Operator) were also named most frequently as being involved in the final buying decisions (85% of the nominated personnel for both products).

9.5 The Relationship between Purchase Intention and the Next Step in Adoption

All the respondents who said they would definitely buy the product and the majority of those who said that they would probably buy the product, also said they would place it on the menu. In addition at least 50% of those who said they may or may not buy the product said they would place it on the menu. There were some menu planning decision makers who said they probably would not buy the products, but would still do further trials. This pattern was obtained for both the Fricadelle and the tender beef in thin slices as shown in Figure 9.1.

Figure 9.1: The Relationship Between Purchase Intention and The Next Step in the New Beef Product Adoption Process

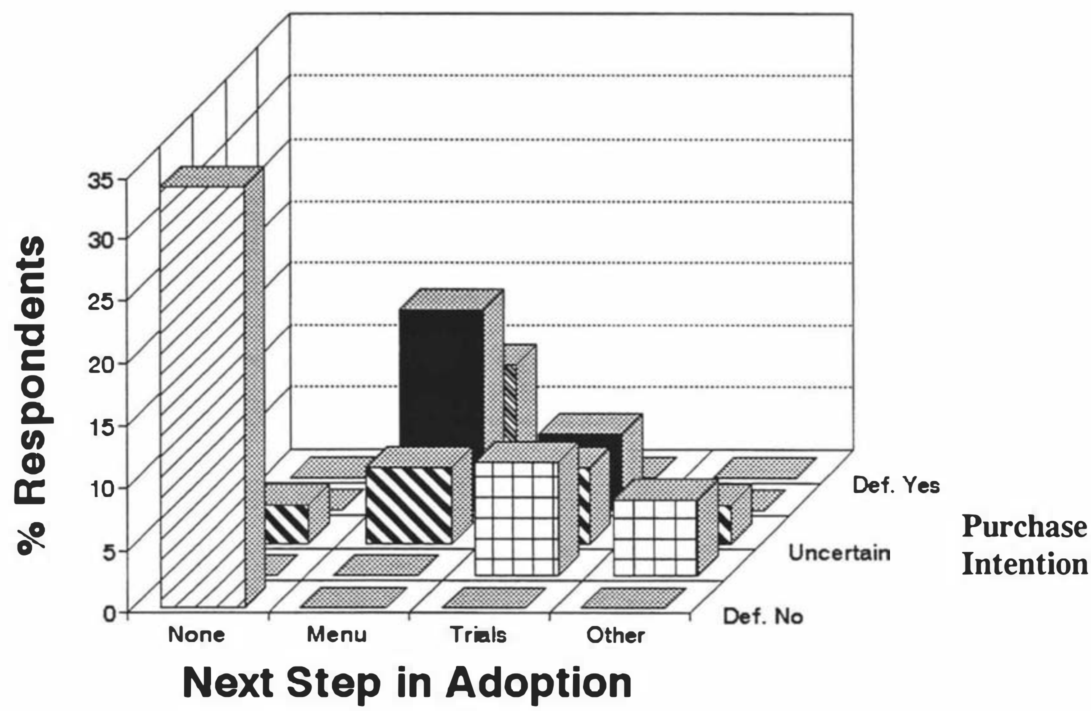
a) Tender Beef in Thin Slices



N=32 Respondents
None - 'No Next Step' specified
* In this and subsequent tables utilising the same scale the following apply:
Def. No - Definitely would not buy the product
Def. Yes- Definitely would buy the product

Figure 9.1: The Relationship Between Purchase Intention and The Next Step in the New Beef Product Adoption Process

b) Fricadelle



N=32 Respondents
None - No 'Next Step' specified

9.6 Intentions for the Product in Terms of Use

A comparison of menu planning decision maker views on product use between the product concept evaluation stage and after product prototype trials is given in Tables 9.9 - 9.13.

For the tender beef in thin slices bistros followed by public bars, functions/banquets and general restaurants were nominated. For the Fricadelle public bars followed by bistros and some general restaurants were nominated. In both cases the pattern changed very little from the first product concept to the trial of the product prototype (Table 9.9).

Table 9.9: A Comparison of Hotel/Motel Outlet Types Suitable for The Products at the Product Concept and Product Prototype Stages

Outlet Types	Tender Beef in Thin Slices		Fricadelle	
	Product Concept	Product Prototype	Product Concept	Product Prototype
	% (Number) of Outlets	% (Number) of Outlets	% (Number) of Outlets	% (Number) of Outlets
Bistros	39 (40)	43 (20)	29 (22)	29 (8)
Public Bars	15 (15)	13 (6)	42 (32)	46 (13)
Functions/ Banquets	14 (14)	15 (7)	6 (3)	4 (1)
General Restaurants	17 (17)	13 (6)	11 (8)	11 (3)
Coffee Shops/Family Restaurants	6 (6)	9 (4)	3 (2)	0 (0)
Specialised Restaurants/ Food Courts	4 (4)	0 (0)	3 (2)	0 (0)
Fine Dining	4 (4)	4 (2)	1 (1)	0 (0)
Staff Canteen	2 (2)	0 (0)	5 (4)	4 (1)
Room Service	1 (1)	4 (2)	3 (2)	7 (2)
	N=103 outlets for 70 respondents	*N=47 outlets for 31 respondents*	*N=76 outlets for 63 respondents*	*N=28 outlets for 23 respondents*

The meal periods nominated by the menu planning decision makers for the products were consistent from the product concept evaluation to the product prototype trial for both products. The tender beef in thin slices was considered to be suitable for both lunch and dinner, while the Fricadelle was considered more suitable for lunch although a significant number also nominated this product as suitable for dinner (Table 9.10).

Table 9.10: A Comparison of Meal Periods Suitable for The Products at the Product Concept and Product Prototype Stages

Meal Period	Tender Beef in Thin Slices		Fricadelle	
	Product Concept	Product Prototype	Product Concept	Product Prototype
	% (Number) of Responses	% (Number) of Responses	% (Number) of Responses	% (Number) of Responses
Breakfast	0 (0)	3 (2)	3 (3)	7 (3)
Lunch	45 (53)	45 (26)	57 (55)	52 (23)
Dinner	49 (57)	48 (28)	29 (28)	27 (12)
Supper	6 (7)	3 (2)	11 (11)	14 (6)
Note: Respondents could choose more than one meal period.	*117 responses for N=73 respondents*	*58 responses for N=32 respondents*	*97 responses for N=73 respondents*	*44 responses for N=26 respondents*

At the product concept stage a wide variety of dishes were suggested for the tender beef in thin slices but once the menu planning decision makers had tested the product prototype the most popular dish types were stir fry and beef olives, recipes for which had been provided with the prototype samples (Table 9.11).

At the product concept stage a wide variety of dishes were suggested for the Fricadelle but once the menu planning decision makers had tested the product the most popular method of presentation was as a hamburger in a roll (Table 9.12).

At the product concept evaluation stage a wide variety of dishes were suggested for both products but after evaluation of the product prototypes the proposed dishes became more focussed. Cooking methods nominated for the products were closely related to the dish types named most frequently: stir frying, pan frying and braising for the tender beef in thin slices; grilling for the Fricadelle.

Table 9.11: Dish Types Suitable for The Tender Beef in Thin Slices

Dish Type	Product Concept % (Number) of Responses	Product Prototype % (Number) of Responses
Stir fry	27 (41)	37 (28)
Beef olives	11 (17)	24 (18)
Asian Dishes	11 (17)	1 (1)
Medallions with sauce	7 (11)	8 (6)
Stroganoff	5 (8)	7 (5)
Casserole	5 (7)	4 (3)
Schnitzel	3 (4)	4 (3)
Italian dishes, e.g.pasta dishes	3 (5)	1 (1)
Steak sandwich	2 (3)	7 (5)
Other	24 (37)	0 (0)
	N=150 responses for 70 respondents	*N=73 responses for 31 respondents*

Table 9.12: Dish Types Suitable for The Fricadelle

Dish Type	Product Concept % (Number) of Responses	Product Prototype % (Number) of Responses
Rissole/burger/spicy meat patty	42 (34)	3 (1)
Hamburger in a roll/submarine sandwich	19 (15)	75 (24)
Mixed Grill	3 (2)	9 (3)
Burger served with salad and chips	5 (4)	3 (1)
Burger served with a sauce, tomato, cream or mushroom	5 (4)	3 (1)
Other or unspecified dishes	28 (22)	6 (2)
	N=81 responses for 62 respondents	*N=32 responses for 23 respondents*

9.7 Customer Profiles

Customer Profiles for the products are summarised in Table 9.13.

Table 9.13: Customer Profiles for the Dish Types Nominated* for The Two Products

Customer Characteristics	Tender Beef in Thin Slices		Fricadelle	
	Product Concept	Product Prototype	Product Concept	Product Prototype
	% (Number) of Responses	% (Number) of Responses	% (Number) of Responses	% (Number) of Responses
Age Group	*330 responses for 70 respondents*	*157 responses for 31 respondents*	*162 responses for 62 respondents*	*50 responses for 23 respondents*
< 20 years	11 (37)	11 (17)	18 (29)	18 (9)
20-34 years	36 (119)	33 (51)	43 (69)	50 (25)
35-49 years	23 (77)	30 (47)	19 (30)	16 (8)
50-64 years	18 (58)	13 (21)	14 (22)	8 (4)
> 64 years	12 (39)	13 (21)	7 (12)	8 (4)
Gender	*149 responses for 70 respondents*	*75 responses for 31 respondents*	*82 responses for 62 respondents*	*32 responses for 23 respondents*
Males	25 (37)	20 (15)	34 (28)	44 (14)
Females	7 (11)	1 (1)	1 (1)	0 (0)
Males & Females	68 (101)	79 (59)	65 (53)	56 (18)
Type of Customer	*242 responses for 70 respondents*	*134 responses for 31 respondents*	*123 responses for 62 respondents*	*46 responses for 23 respondents*
Business People	26 (63)	25 (33)	15 (18)	22 (10)
Families	12 (30)	7 (9)	21 (26)	7 (3)
Shoppers	5 (12)	6 (8)	10 (12)	11 (5)
Social/Celebration	14 (33)	14 (19)	8 (10)	7 (3)
Regular Customers	17 (42)	25 (34)	19 (23)	26 (12)
Mixture	26 (62)	23 (31)	28 (34)	28 (13)

* The nominated dish types are shown in Tables 9.11 and 9.12 on the previous page.

After testing the prototypes the menu planning decision makers predicted that the customers for the tender beef in thin slices would be mostly in the 20-34 and 35-49 years age ranges, a mixture of males and females and a mixed group including approximately one quarter business people and one quarter regular customers. The Fricadelle was predicted to attract more of the 20-34 years age group, a mixture of males and females probably with more males and a mixed group including approximately one quarter business people and one quarter regular customers.

The differences in the predictions for customer profiles between the product prototype and the product concept evaluations were not marked for either product.

The selling price ranges nominated for the dishes suggested by the menu planning decision makers are summarised in Table 9.14 using the same price range as in the consumer trials of the two products.

Table 9.14: Selling Price Range for the Nominated* Dish Types for The Two Products

Selling Price of Dishes	Tender Beef in Thin Slices		Fricadelle	
	Low Price % (Number) of Responses	High Price % (Number) of Responses	Low Price % (Number) of Responses	High Price % (Number) of Responses
< $6	12 (9)	8 (6)	69 (22)	66 (21)
$6 - $7.95	24 (18)	21 (16)	9 (3)	13 (4)
$8 - $9.95	23 (17)	21 (16)	16 (5)	16 (5)
$10 - $11.95	12 (9)	25 (19)	3 (1)	3 (1)
$12 - $14.95	17 (13)	12 (9)	3 (1)	3 (1)
> $15	12 (9)	12 (9)	0 (0)	0 (0)
	N=75 responses for 31 respondents	*N=75 responses for 31 respondents*	*N=32 responses for 23 respondents*	*N=32 responses for 23 respondents*

* The nominated dish types are shown in Tables 9.11 and 9.12 on page 201.

The majority of dish prices fell within the range $6 - $11.95 for the tender beef in thin slices and <$6 for the Fricadelle. The tender beef in thin slices commanded a broader price range than the Fricadelle, which was considered to be suitable for use in low priced fast food dishes

9.8 Product Evaluation

The two new beef products were sufficiently different in their characteristics for discernible differences in their acceptability and potential uses within the foodservice operations to be noted.

9.8.1 Acceptance of the Products

While the same proportion of the menu planning decision makers were able to make purchasing decisions about both products the tender beef in thin slices received more positive responses than the Fricadelle. The proportions of 'innovators', those who said they would definitely buy the product, were similar for both products but the Fricadelle had a greater number of 'total rejectors', those who said that they would definitely not buy the product.

9.8.2 Use of the Products

Intentions for use, though different for the two products were consistent for each product from concept to prototype. The tender beef in thin slices was considered most suitable for lunch and dinner for bistros, but also suitable for general restaurants, functions/banquets and public bars indicating it to be a moderately priced item with great versatility in use. The Fricadelle had a narrower profile, most suitable for lunch predominantly in public bar outlets followed by bistros, indicating it to be suitable as a lower priced, fast-food item.

As recipes, for teriyaki beef and beef and mushroom roulades, were provided with the tender beef in thin slices prototype, a greater proportion of the menu planning decision makers suggested stir fry and beef olives as suitable dishes than at the concept stage. It seems, then, that the menu planning decision makers do seem to be influenced to some degree by recipes provided, though further recipe development would probably broaden their ideas for the product. For the Fricadelle the hamburger in the roll was suggested in greater numbers for the prototype than for the product concept. Thus, the menu planning decision makers obtained a clearer picture of what dishes they would prepare from trying the product prototype than from reading the product concept description.

9.8.3 Customer Profiles for the Dishes Using the Two Products

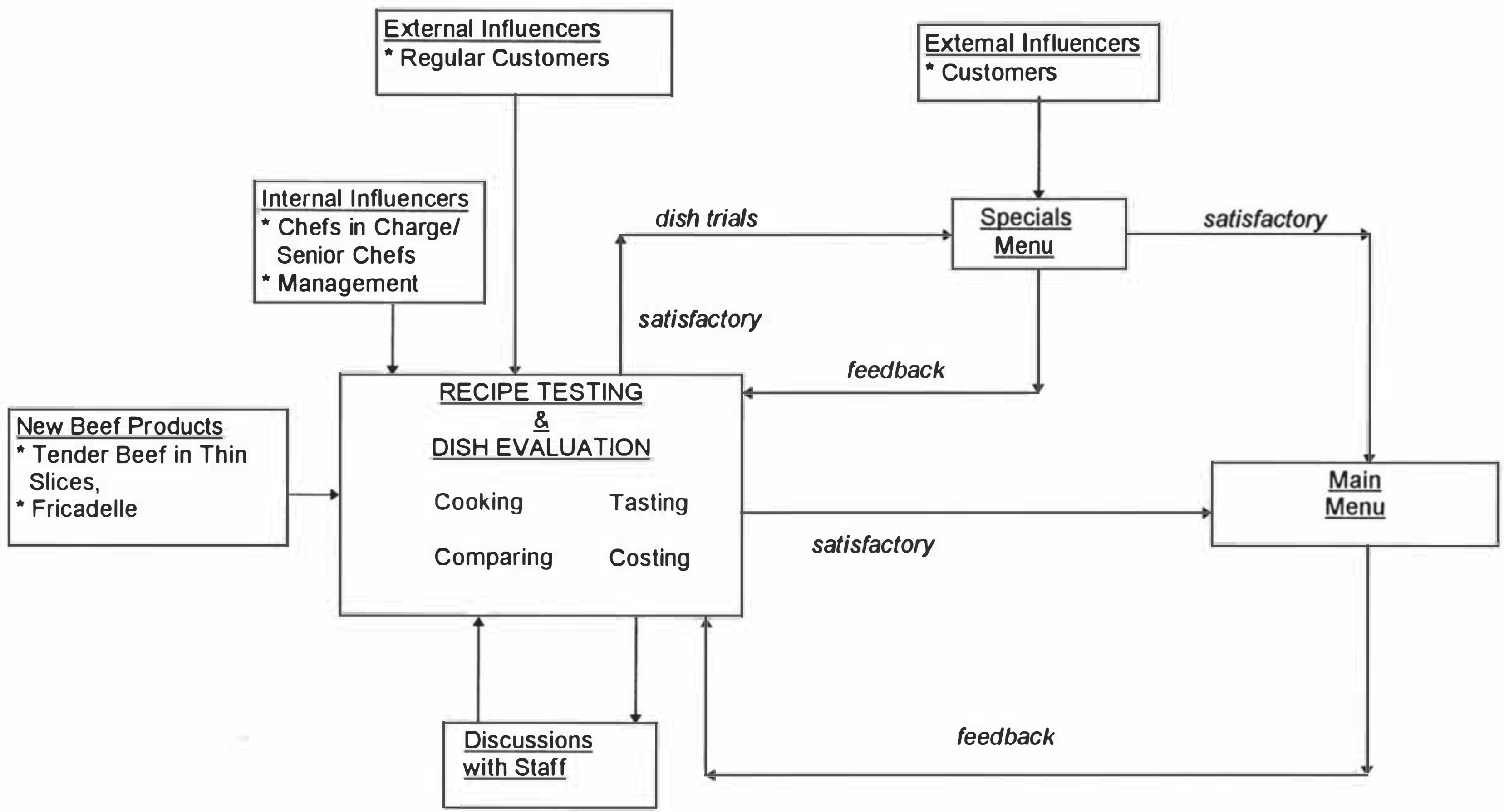
The customer profiles for the two products were also different with the tender beef in thin slices commanding a broader age range and a more mixed group of males and females than the Fricadelle. The Fricadelle was likely to attract more males possibly because nominated outlets were mostly public bars.

Both products were thought to be suitable for a broad range of customers, approximately half being business people and regular customers. Selling prices predicted also placed the products clearly within the price ranges of the nominated outlets, the Fricadelle being priced mostly at < $6 suited to public bars and some bistros, and the tender beef in thin slices between $6 -$11.95 suited to bistros and some more moderately priced restaurants and functions.

9.9 The Relationship Between the Adoption Stage and Product Trials

Trial recipes for the prototype testing were selected by the menu planning decision makers and the dishes prepared and evaluated. The steps taken by the menu planning decision makers in these trials were identified as steps used in menu planning associated with the practical development of dishes. Menu action by menu planning decision makers reflected a preference for further trials after making the purchase decision, indicating a tendency towards post-purchase evaluation as part of the new beef product adoption stage. The process for placing the products on the menu and undertaking further trials is represented schematically in Figure 9.2.

Figure 9.2: Evaluation of the Two New Beef Products: Recipe Testing, Further Trials and Menu Action



9.9.1 The Menu Planning Process

The steps used by the majority of menu planning decision makers all had a practical orientation. The most frequently used steps, costing of the standard recipe and feedback on ingredient and product performance, emphasise the need to keep new dishes within cost limits and to monitor quality. The next most used steps included the development of new dishes with ingredient and dish trials leading on to decision making in the choice of dishes for the completion of the new menu. None of these steps were related to the supplier nor did they involve documentation of ingredient or recipe ideas, rather they incorporated the practical aspects of the chef's creativity and offered opportunities for the application of his/her skills.

Steps involving documentation of the standard recipe, important in recording the essential details for the production of a dish, were neglected by the majority of menu planning decision makers. Dishes, without standard recipes, when prepared by different chefs, or even by the same chef on different days, may be inconsistent in their quality, cost and profitability thus reducing the efficiency of the menu planning process. Further, supplier-related steps, which were also neglected by the majority of menu planning decision makers, rely heavily on the documentary menu planning steps for their effectiveness. If standard recipes have not been documented then the recording of ingredient specifications and/or purchasing specifications is unlikely to be accomplished. In these circumstances the suppliers, therefore, have to rely on verbal communication for the specifications of the ingredients requested.

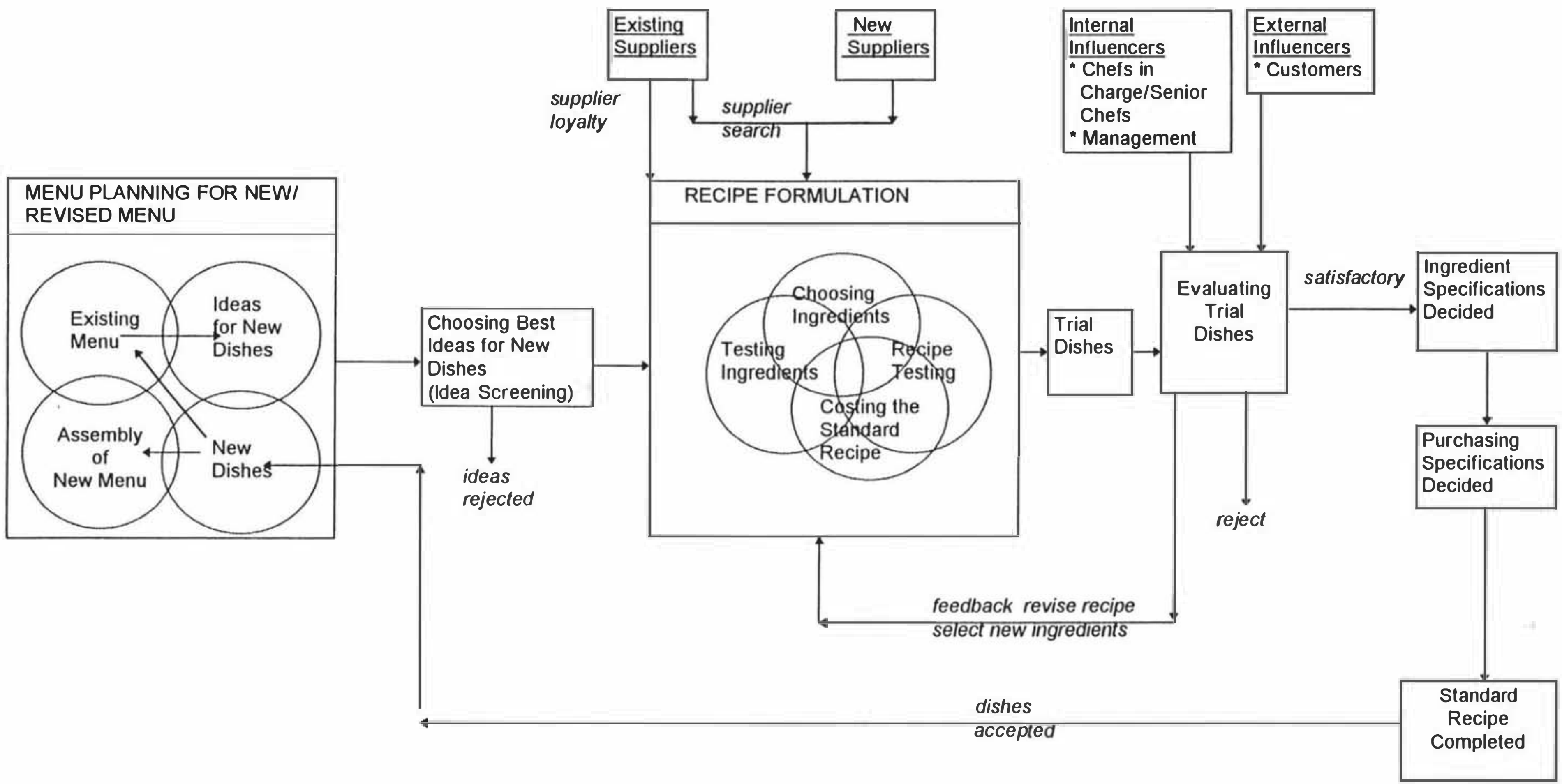
The fact that supplier-related steps were infrequently used may reflect limited communication between adopters and suppliers. "Finding suppliers" was used frequently by only one fifth of the menu planning decision makers indicating a tendency for them to stay with the suppliers they already use. This is a clear demonstration of supplier loyalty. In addition, when ingredient and purchasing specifications are not used, this may indicate that new products are less frequently sought and that ingredients already being supplied may be utilised in new dishes. However, despite low frequency of use, almost half of the menu planning decision makers still said that they did use the steps of finding suppliers, requesting quotations and finalising suppliers at times during menu planning so there must still be constant activity by menu planning decision makers in the search for new ingredients from suppliers.

The first step in the menu planning process was suggested by the majority of the respondents but the proportion of respondents agreeing on the order of the subsequent steps fell dramatically indicating that menu planning was not carried out in a common systematic way by all menu planning decision makers. This is emphasised by the lack of use of the majority of the steps requiring documentation.

The menu planning decision makers' new product development process appears to be very informal, steps following each other rapidly and probably overlapping with some completely omitted. The early steps of idea generation and screening were clearly defined in the sequence and the use of the product design, testing and trial steps were demonstrated by the respondents' action during the prototype trials of the two new beef products. However, the process did not follow a clearly defined pattern and it appears, therefore, that menu planning decision makers do need to receive more training in planning their own new product development process in order to make better use of their suppliers and what they can offer. Further, suppliers need to approach menu planning decision makers at the ideas stage for the planning of new dishes in order to obtain feedback about their new products including ideas for their use and to establish an early developer/adopter relationship.

Figure 9.3 shows the inter-relationship of the steps in menu planning with the prototype trials stage in the new product adoption process.

Figure 9.3: Inter-relationships of Steps in Menu Planning with the Prototype Trial Stage



9.9.2 Menu Action

Placing the new product on the menu was shown to be an important part of the new beef product adoption process. The menu actions nominated for both products were predominantly to place them on the 'Specials' menu. The numbers of menu planning decision makers specifying the 'Specials' menu exceeded the numbers who said they would place the products on the menu as the next step in product adoption before carrying out further trials. This indicates that the 'Specials' menu may be considered as a method for further trials as this type of menu changes constantly and is a useful way of obtaining feedback from customers about a new product before making a long-term commitment to it by placing it on the main menu.

9.9.3 The Purchase Decision and Post-purchase Evaluation

The majority of the menu planning decision makers were able to make purchase decisions after testing the prototype products indicating the need for suppliers to make samples of new products available for trials by menu planning decision makers. Further trials were shown to be important by the number and variety of ways in which they are used by menu planning decision makers. They provide additional information which helps the menu planning decision makers with post-purchase evaluation and final adoption decisions. Further trials and menu action were not mutually exclusive, the 'Specials' menu was also used as a means of obtaining feedback about new products from customers.

Post-purchase evaluation was shown to be necessary through the popularity of further trials including placing the product on the 'Specials' menu.

9.10 Factors Affecting the Adoption Stage in New Beef Product Adoption

Product type was shown to affect the purchasing decision and the form post-purchase evaluation would take. The menu planning decision makers, when making their purchase decisions considered the suitability of the product type for use in their operation's different foodservice outlets.

9.10.1 Product Type

The acceptability of the products, in terms of preparedness of the menu planning decision makers to purchase the product, and the next step in adoption both depended upon the product type. The raw product, the tender beef in thin slices, provided more scope for the chef's creativity so requiring more recipe development, discussion with other staff and costing to be carried out than for the Fricadelle, which was already prepared ready-to-cook, and of fixed portion size and cost.

9.10.2 Outlets in the Foodservice Operation

The range of outlet types specified for use of the products was different for each of the two new beef products, bistros predominating for tender beef in thin slices and public bars for the Fricadelle. This indicates that when new beef products are identified as only suited to particular outlet types some foodservice operations may be precluded from being able to use them if their outlet types are significantly different. Thus outlet type is an important factor affecting new beef product adoption.

9.10.3 Buying Centre

For all activities involved in the adoption stage including deciding upon purchasing specifications, dish evaluation and the purchase decision the Chefs in Charge/Senior Chefs and Management had the most involvement and influence. Other groups were involved to some degree but they had no influence. The most influential personnel were the Executive Chefs and the Head Chefs, and it is these who should be targeted by suppliers with information and samples of new beef products for evaluation and trial. The involvement of regular customers and the performance of the product in the new dish on the 'Specials' menu also provided these Chefs in Charge/Senior Chefs with feedback necessary to make their decisions.

9.11 The New Beef Product Adoption Model Stage 3 - Prototype Trial and Stage 4 - Adoption (including Post-purchase Evaluation)

The steps used by menu planning decision makers in menu planning during product trial and evaluation together with the factors affecting the adoption process identified in this chapter and in Chapter 8 have been incorporated into stages 3 and 4 of the Model of New Beef Product Adoption Process. These are shown schematically in Figure 9.4 of Stage 3, Prototype Trial, and Figure 9.5 of Stage 4, Adoption (including Post-purchase Evaluation).

Figure 9.4: The New Beef Product Adoption Process Stage 3 - Prototype Trial

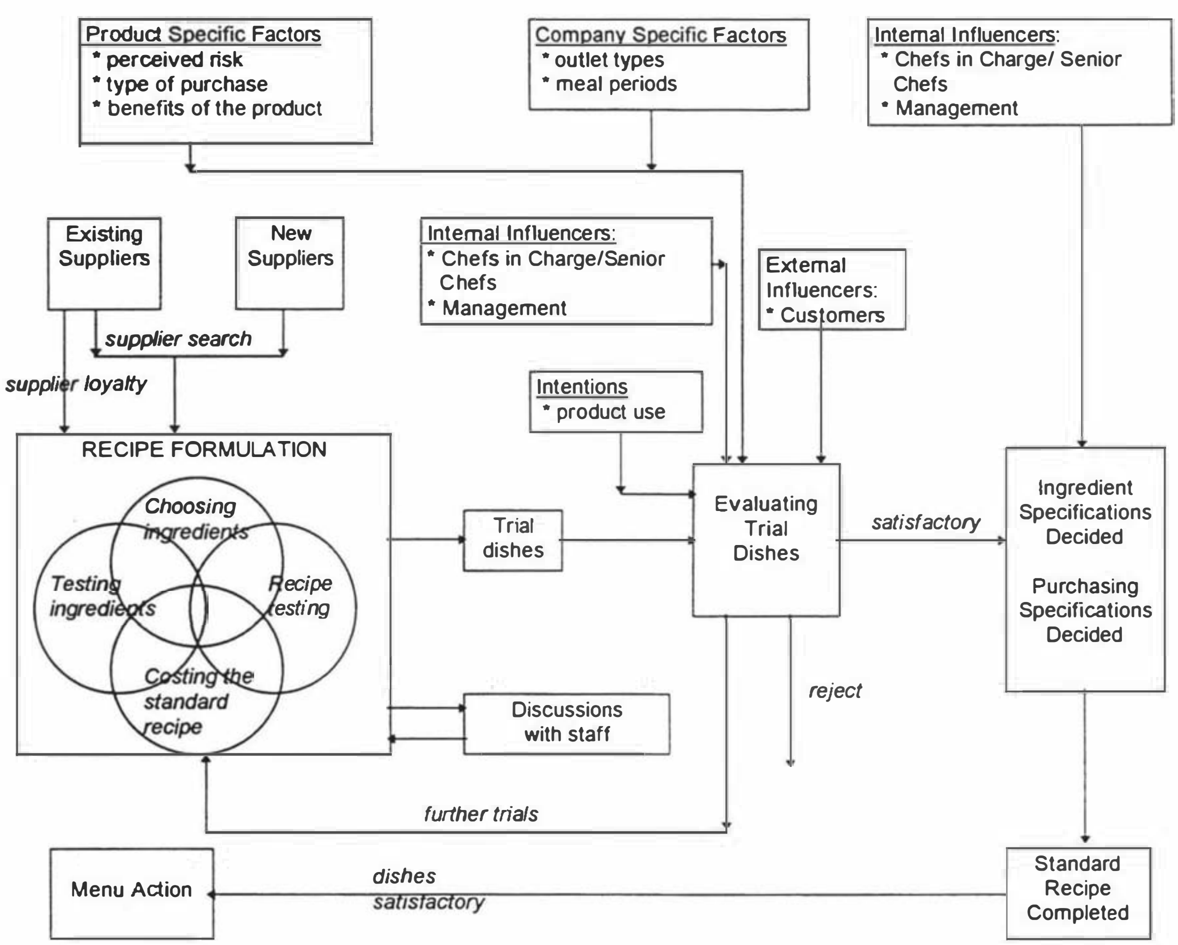
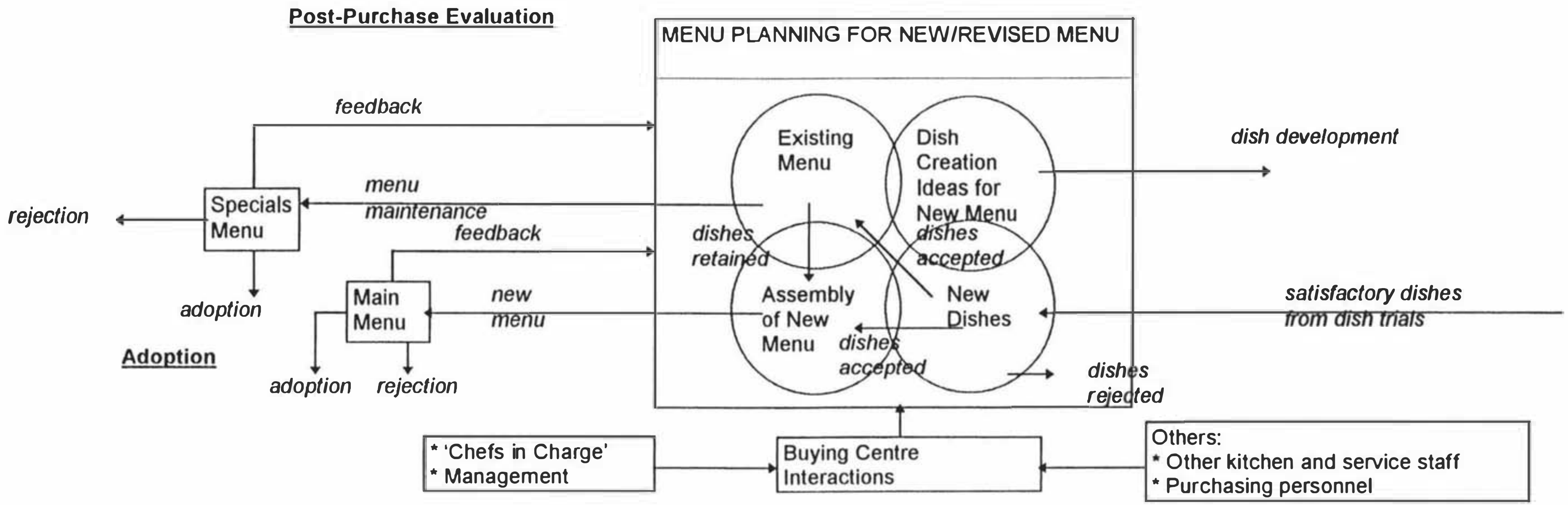


Figure 9.5: The New Beef Product Adoption Process Stage 4 - Adoption (including Post-purchase Evaluation)



9.12 Conclusions

The menu planning decision makers made decisions relating to the placement of the two new beef products in their foodservice operations. The relationship between the prototype trials and steps in menu planning were elucidated and factors affecting the Trial and Adoption stages in the new beef product adoption process determined.

9.12.1 The Two New Beef Products

* Menu planning decision makers had more confidence in placing the tender beef in thin slices on the menu than the Fricadelle.
* The tender beef in thin slices was considered to be suitable for lunch and dinner mostly for bistros. It will appeal mostly to males and females in the 20-49 years age range and to a broad range of hotel/motel customers including a large proportion of business people and regular customers. It will be used in a wide range of dish types, including a high proportion of stir fry and braised dishes, which will be sold largely within the $6 - $11.95 price range.
* The Fricadelle was considered to be suitable mostly for lunch-time dishes largely offered in public bars as a low priced fast food item with a selling price below $6. It will appeal to the 20-34 years age group and to a broad range of hotel and motel customers including a large proportion of business people and regular customers. It will be cooked by grilling and sold mostly as a 'hamburger' in a roll.

9.12.2 Relationship between Product Trials and Steps in Menu Planning

* Before the trial of new beef products the ideas for new dishes start the menu planning process. The best ideas are then chosen for development (this is essentially an idea screening process) before the recipes are developed and tested.

- At the recipe formulation step the ingredients are chosen, new ingredients may be selected, and both ingredients and recipes tested and costed. This is the step when product trials take place.
- Trial dishes are prepared and then evaluated both by personnel from within the foodservice operation, in particular the Chefs in Charge/Senior Chefs and Management, and some people external to the organisation including regular customers, either by invitation or through purchasing dishes from the 'Specials' menu.
- From successful trial evaluation ingredient and purchasing specifications are decided upon but not necessarily written down. Standard recipes are completed by some menu planning decision makers and the dishes then considered for placement on the menu.
- Placement of the dishes on the menu may not be the end of the trial stage as the 'Specials' menu is seen as one way of carrying out further trials.

9.12.3 Adoption and Trial of New Beef Products

- The adoption stage in new beef product adoption would not end at the first purchase, further trials would include utilisation of the 'Specials' menu as a means of obtaining feedback from customers providing a form of post-purchase evaluation.
- The Executive Chefs and Head Chefs were the most involved and most influential personnel in the processes of dish evaluation, deciding upon purchasing specifications and in making the final purchase decision.
- Menu planning decision makers were able to make their decisions about the outlet type, meal period suitability and customer profile for the new beef products at the product concept stage. The dish types and cooking methods were more clearly defined at the product prototype trials stage.
- The adopter/developer relationship for new products was weak. Steps in menu planning which were economic performance and practically oriented were most frequently used while steps related to documentation for the standard recipe and communications with suppliers were neglected by most

menu planning decision makers. They did not have a systematic well-used sequence for the steps they use in menu planning.

CHAPTER 10
THE TOTAL PRODUCT ADOPTION PROCESS

The total new beef product adoption process was examined for the group of thirty-one menu planning decision makers who stayed with the research program through all three surveys. This provided a continuity of both foodservice operation and respondent as a means of comparison for different stages in the process.

The 31 original hotels and motels have been shown to be a representative subset of the 73 operations participating in this project (see Section 4.1). In addition the 31 original menu planning decision makers were shown to be a representative group both in their characteristics (see Section 4.2) and in their behaviour, in the ways in which they changed their menus, in their relationships with suppliers, in the sources of information they used for new beef products, in the way in which they decided upon purchasing specifications and in the steps they used in menu planning.

The changes in behaviour and attitudes of the menu planning decision makers which took place between product concept evaluation and prototype trials for the two new beef products were monitored and used to more clearly define the different stages in the new beef product adoption process.

10.1 Consistency of the Behaviour of the Subset of 31 Menu Planning Decision Makers

This group offered menus with specials in the majority of their outlets (Appendix 33), with most of their menus being changed at least once every 3 months (Appendix 34). New dishes or specials were offered frequently, mostly either once a week or more often (Appendix 35). Almost half of the outlets required more than 10 new ingredients at their last menu change while between menu changes one quarter of the outlets required more than 10 new ingredients (Appendix 36). The most used methods of menu analysis were customer feedback (71%), food cost percentage (65%) and sales records (48%) (Appendix 37).

Sales representatives of distributors were used the most as a source of information on new products followed by sources involving direct communication with people, including food processing representatives and persons from their own foodservice operations, and involving the print media including business/magazine advertisements and articles from trade journals (see Appendix 38). Direct communication with people, particularly sales representatives of distributors and persons in their own foodservice operations, and also supplier promotions were most influential followed by sources involving the print media (Appendix 39).

The predominant supplier for raw beef products was the wholesaler, while for the prepared ready-to-cook and pre-cooked beef products both the wholesaler and the distributor were used (Appendix 40). The greatest loyalty was to the suppliers of new raw beef products (Appendix 41).

The Chefs in Charge, who were predominantly the Executive Chefs and Head Chefs, were the most involved and the most influential for deciding upon purchasing specifications. Both Management and the Purchasing Department personnel had less involvement and less influence than the Chefs in Charge (Appendix 42).

The most used steps in menu planning were those which related to the practical development of dishes in the kitchen, with costing of the standard recipe, followed by feedback on product performance in the top two ranks. The original group used some of the steps less frequently than the larger group, especially testing of ingredients and products (Appendix 43).

10.2 Changes in Factors Affecting the Decision Making Process

Some factors changed as menu planning decision makers obtained new information about, and experience of, the new products.

10.2.1 Product Benefits

*** Benefits Looked for in Three New Beef Product Types**

A summary of the importance scores for the product benefits is provided in Table 10.1.

Table 10.1: Importance of Product Benefits for the Three New Beef Product Types

Product Benefit	Proportion of Respondents placing Great Importance (score 5) on Product Benefits for the Three New Beef Product Types		
	Raw Beef	Prepared Ready-to-Cook Beef	Pre-cooked Beef
	% (Number) of Respondents	% (Number) of Respondents	% (Number) of Respondents
Satisfy Customer Demand	68 (21)	55 (17)	52 (16)
Quality for Purpose	65 (20)	68 (21)	61 (19)
Value for Money	55 (17)	53 (16)*	48 (15)
Minimal Wastage	68 (21)	42 (13)	32 (10)
Save Time	36 (11)	36 (11)	36 (11)
Versatility/Flexibility	29 (9)	16 (5)	26 (8)
Save Labour	32 (10)	36 (11)	36 (11)
Low Cost	29 (9)	29 (9)	19 (6)

N=31 Respondents
* N=30 Respondents

The top three benefits for the three new beef product types were as follows:

New Raw Beef Products

1= Satisfy Customer Demand

1= Minimal Wastage

3. Quality for Purpose

New Prepared Ready-to-Cook Beef Products and ***New Pre-cooked Beef Products***

1. Quality for Purpose
2. Satisfy Customer Demand
3. Value for Money

When these most important benefits were ranked relative to oneanother a different pattern emerged (Table 10.2).

Table 10.2: Relative Ranking for the Importance of Product Benefits by New Beef Product Type

Rank	New Raw Beef Products	New Prepared Ready-to-Cook Beef Products	New Pre-cooked Beef Products
	Product Benefits (Total Points)	**Product Benefits (Total Points)**	**Product Benefits (Total Points)**
1	Value for Money (676)	Value for Money (540)	Quality for Purpose (700)
2	Satisfy Customer Demand (416)	Quality for Purpose (470)	Value for Money (431)
3	Quality for Purpose (378)	Satisfy Customer Demand (450)	Satisfy Customer Demand (376)
4	Low Cost (341)	Low Cost (343)	Low Cost (316)
5	Minimal Wastage (241)	Minimal Wastage (273)	Save Labour (239)
6	Save Labour (200)	Save Labour (271)	Serves a Large No. of Meals Efficiently (230)
7	Serve a Large No. of Meals Efficiently (151)	Serve a Large No. of Meals Efficiently (144)	Minimal Wastage (187)
8	Save Time (145)	Ease of Cooking (139)	Save Time (179)
N=31 Respondents			

It was shown that new raw, prepared ready-to-cook and pre-cooked beef products must provide *quality for purpose, satisfy customer demand* and offer *value for money*. In terms of relative importance of product benefits *value for money* was of paramount importance for new raw beef products while *quality for purpose* was of increasing importance for the prepared ready-to-cook and pre-cooked new beef products. The differences between the important benefits for these types highlight the relationship between *quality* and *value for money*, the more work done on the beef product the more important quality becomes in relation to value for money.

*** Product Concept Benefits vs Product Prototype Benefits**

Table 10.3 shows how the product benefits scores changed from the evaluation of the product concept to the product prototype.

Table 10.3: Product Benefits with High Scores (>3) for the Two New Beef Products

Product Benefits	Tender Beef in Thin Slices		Fricadelle	
	Product Concept Score (4+5) % (Number) of Respondents	Product Prototype Score (4+5) % (Number) of Respondents	Product Concept Score (4+5) % (Number) of Respondents	Product Prototype * Score (4+5) % (Number) of Respondents
Save Time	94 (29)	81 (25)	61 (19)	70 (21)
Versatility	68 (21)	68 (21)	42 (13)	40 (12)
Value for Money	65 (20)	58 (18)	55 (17)	27 (8)
Quality	26 (8)	55 (17)	23 (7)	23 (7)
Need	55 (17)	32 (10)	39 (12)	17 (5)

N=31 Respondents
* N=30 Respondents

The tender beef in thin slices was scored almost the same for *versatility* and *value for money* from concept to prototype. *Quality* was not scored highly for the concept but the rating of the prototype was much higher. The scores for *saving time* and *need* both declined from concept to prototype.

The Fricadelle was scored almost the same for *versatility* and *quality* from concept to prototype. *Saving of time* was rated more highly for the prototype than the concept. However, the scores for *value for money* and *need* both declined.

*** The Relationship between Product Benefits Scores and i) Interest in Trying the Product and ii) Purchase Intention**

The relationship between product benefits and the menu planning decision makers' intention to purchase differed from concept to prototype evaluation (Tables 10.4 and 10.5).

Table 10.4: The Relationship between Product Benefits Scores and i) Interest in Trying the Product and ii) Purchase Intention for the Tender Beef in Thin Slices

Product Benefit	i) Interest in Trying	ii) Purchase Intention	
	Product Concept Significance	Product Concept Significance	Product Prototype Significance
Save time	0.29	0.66	0.56
Versatility	0.32	0.80	0.03*
Value for Money	0.24	0.17	0.04*
Quality	0.97	0.19	0.03*
Need	0.00*	0.87	0.00*

N=31 Original Respondents
* Values significantly correlated at the 5% significance level

Table 10.5: The Relationship between Product Benefits Scores and i) Interest in Trying the Product and ii) Purchase Intention for the Fricadelle

Product Benefit	i) Interest in Trying	ii) Purchase Intention	
	Product Concept Significance	Product Concept Significance	Product Prototype Significance
Save time	0.51	0.69	0.22
Versatility	0.43	0.27	0.35
Value for Money	0.56	0.54	0.25
Quality	0.01*	0.21	0.00*
Need	0.00*	0.22	0.00*

N=31 Original Respondents
* Values significantly correlated at the 5% significance level

The following relationships were tested:

* *Actual benefits offered by the product concepts (Survey 1) vs interest in trying the product (Survey 1).*

For the tender beef in thin slices at the product concept stage a significant positive correlation was found between *need* and interest in trying the product. For the Fricadelle two significant positive correlations were found between interest in trying the product and i) *quality* and ii) *need* for the product.

* *Actual benefits offered by the product concepts (Survey 1) vs purchase intention for the product (Survey 3)*

No significant correlations between product concept benefits and purchase intention for either the tender beef in thin slices or the Fricadelle were found.

* *Actual benefits offered by the product prototype (Survey 3) vs purchase intention for the product (Survey 3)*

Significant positive correlations between purchase intention and product benefits of the tender beef in thin slices prototype were obtained for *value for money, versatility, quality* and *need* for the product. For the Fricadelle significant positive correlations were obtained between purchase intention and product benefits of the product prototype for *quality* and *need* for the product.

Thus *quality* and *need* were the most important product benefits for both products when the final judgements were made about the product prototype for the purchasing decision. For the tender beef in thin slices *value for money* and *versatility* also had some importance in addition to need and quality.

A summary of the responses of the original sample of 31 menu planning decision makers for interest in trying the product and purchase intention for the tender beef in thin slices and the Fricadelle are provided in Appendix 44 and Appendix 45.

* **The Relationship between Product Benefits Scores**

Relationships between product benefits scores for the same product benefits at different stages in the new product adoption process were sought.

The following relationships were tested:

* ***Actual benefits offered by product concepts (Survey 1) vs importance scores for product benefits looked for in a new beef product type (Survey 2).***

These were intended to show whether the benefits looked for in a new beef product type were offered by the product concept descriptions for the four product concepts:

* New Raw Beef Products related to tender beef in thin slices, flavoured pickled beef;

* New Prepared Ready-to-Cook Beef Products related to Fricadelle;

* New Pre-cooked Beef Products related to meat loaf.

Only one significant correlation was found. For the flavoured pickled beef there was a significant positive correlation between the *versatility* perceived at the product concept stage and the importance score for *versatility* for the raw beef product type (0.04 significance). The lack of significant correlations indicates that the product concept benefits were not attractive enough.

* ***Importance scores for product benefits looked for in a new beef product type (Survey 2) vs actual product benefits scores offered by the prototype product (Survey 3).***

For the Fricadelle there were no significant correlations between the importance scores of the product benefits for the prepared ready-to-cook new beef product type and the prototype product benefits. For the tender beef in thin slices there was only one significant positive correlation between the raw beef product type and the product prototype benefits for *saving on equipment use* (0.03 significance). The lack of relationships between the product benefits scores for the beef product type and the product prototypes indicates that the product prototypes did not meet the menu planning decision makers expectations.

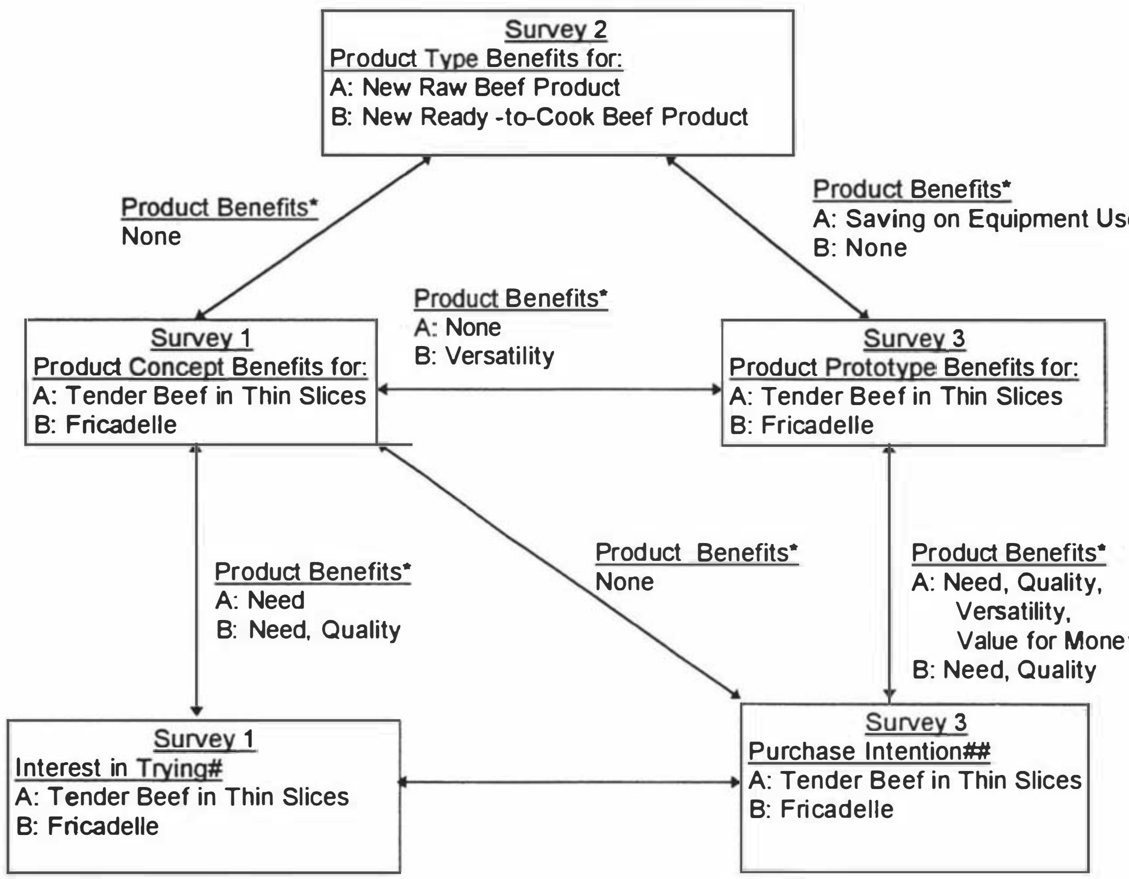
* ***Actual benefits offered by the product concepts (Survey 1) vs actual product benefits offered by the prototype product (Survey 3).***

Significant positive correlations between the benefits scores for the product concepts and the prototype products were expected to highlight whether the prototype products actually matched the ideas that the menu planning decision makers had of them as a result of their interpretation of the product concept description and, indeed, whether any of the minor changes to the product away from the product concept description affected the product prototype scores.

There were no significant correlations between the product benefit scores for the product concept and the prototype for the tender beef in thin slices. For the Fricadelle there was one significant positive correlation between scores for the product concept and the product prototype, *versatility* (0.01 significance). The scores for benefits of the product concepts bore little relationship to the benefits scores of the product prototypes. This indicates that there is unlikely to be a correlation between benefits scores at the concept stage and purchase intention and this has already been demonstrated in earlier in this Chapter (Section 10.2.1).

The significant relationships between the surveys for product benefits, interest in trying and purchase intentions are summarised in Figure 10.1.

Figure 10.1: Relationships between Product Benefits*, Interest in Trying# and Purchase Intentions## for Surveys 1, 2 and 3



* Significant positive correlations obtained between product benefits scores and product benefits, interest in trying and purchase intention scores for the two new beef products across the three surveys.

10.2.2 Product Risks

The menu planning decision makers were more cautious when assessing the product prototype than when assessing the product concept and all risks for the prototype received a lower proportion of 'No Risk' scores (Table 10.6.).

Table 10.6: No Risk Scores (1) for the Two New Beef Products

Product Risks	'No Risk' Score (1)			
	Tender Beef in Thin Slices		Fricadelle	
	Product Concept 'No Risk' Score (1) % (Number)	Product Prototype 'No Risk' Score (1) % (Number)	Product Concept 'No Risk' Score (1) % (Number)	Product* Prototype 'No Risk' Score (1) % (Number)
Increased staff costs	87 (27)	71 (22)	84 (26)	73 (22)
Food safety risk	81 (25)	65 (20)	81 (25)	50 (15)
Too high use of one piece of equipment	81 (25)	39 (12)	71 (22)	53 (16)
Increased storage capacity required	77 (24)	58 (18)	71 (22)	50 (15)
High financial losses	71 (22)	58 (18)	71 (22)	47 (14)
Chefs skills reduced	61 (19)	39 (12)	45 (14)	33 (10)
Poor peer recognition	55 (17)	26 (8)	58 (18)	20 (6)
Failure of the product in the marketplace	58 (18)	32 (10)	48 (15)	20 (6)

N=31 Original Respondents
* N=30 Original Respondents

* **The Relationship between Product Risk Ratings and: i) Interest in Trying the Product, and ; ii) Purchase Intention.**

The relationship between product risks and i) interest in trying the product, and ; ii) purchase intention are given in Table 10.7 on page 228 and Table 10.8 on page 229.

Table 10.7 : Relationship between Product Risks for Tender Beef in Thin Slices and i) Interest in Trying the Product and ii) Purchase Intention

Product Risks	i) Interest in Trying	ii) Purchase Intention	
	Product Concept Significance	Product Concept Significance	Product Prototype# Significance
Increased staff costs	0.00*	0.63	0.63
Increased storage capacity required	0.38	0.24	0.10
Too high use of one piece of equipment	0.00*	0.64	0.05*
Food safety risk	0.15	0.27	0.54
High financial losses	0.02*	0.61	0.08
Poor peer recognition	0.01*	0.09	0.05*
Chefs skills reduced	0.54	0.68	0.71
Failure of the product in the marketplace	0.24	0.29	0.10

N=31 Original Respondents
# N=30 Original Respondents
* Values significantly correlated at the 5% significance level

The following relationships were tested:

* ***Perceived risks for the product concepts (Survey 1) vs interest in trying the product (Survey 1)***

For the tender beef in thin slices significant negative correlations were obtained between interest in trying the product and the perceived risk from the product concept description of *increased staff costs, too high a use of one piece of equipment, high financial losses* and *poor peer recognition.* For the Fricadelle significant negative correlations were obtained between interest in trying the product and the perceived risk from the product concept description of *increased staff costs, increased storage capacity required, too high use of one piece of equipment, poor peer recognition* and *failure of the product in the marketplace.*

Table 10.8: Relationship between Product Risks for the Fricadelle and i) Interest in Trying the Product and ii) Purchase Intention

Product Risks	i) Interest in Trying	ii) Purchase Intention	
	Product Concept Significance	Product Concept Significance	Product Prototype Significance
Increased staff costs	0.01*	0.11	0.33
Increased storage capacity required	0.05*	0.48	0.61
Too high use of one piece of equipment	0.00*	0.31	0.34
Food safety risk	0.13	0.28	0.67
High financial losses	0.06	0.78	0.85
Poor peer recognition	0.00*	0.60	0.01*
Chefs skills reduced	0.08	0.79	0.11
Failure of the product in the marketplace	0.03*	0.65	0.21
N=31 Original Respondents * Values significantly correlated at the 5% significance level			

* ***Perceived risks for the product concept (Survey 1) vs purchase intention for the product (Survey 3)***

No significant correlations were obtained between the perceived risks for the product concepts and purchase intentions for either the tender beef in thin slices or the Fricadelle.

* ***Perceived risks for the product prototype (Survey 3) vs purchase intention for the product (Survey 3)***

One significant negative correlation between purchase intention and perceived risks after trying the product prototype was obtained for both products for poor peer recognition and also for *too high use of one piece of equipment* for the tender beef in thin slices.

Menu planning decision makers do have concerns related to the work flow in the kitchen and to risks associated with these labour costs but when these concerns are low *poor peer recognition* becomes the critical issue. This reflects the professionalism of chefs and the need for approval from their peers.

* ***Perceived risks from the product concept descriptions (Survey 1) vs risks perceived from the prototype product (Survey 3).***

Correlations between the risk scores for the product concept and the prototype product were expected to highlight whether the menu planning decision makers changed their opinions about the product risks between evaluating the product concepts and testing the product prototypes (see Table 10.9).

Table 10.9: Relationship between Product Risk Scores of the Product Concepts and the Product Prototypes for the Two New Beef Products

Product Risk	Tender Beef in Thin Slices - Significance	Fricadelle Significance
Increased staff costs vs Increased staff costs	0.00*	0.31
Increased storage capacity required vs Increased storage capacity required	0.12	0.60
Too high use of one piece of equipment vs Too high use of one piece of equipment	0.33	0.36
Food safety risk vs Food safety risk	0.01*	0.31
High financial losses vs High financial losses	0.44	0.12
Poor peer recognition vs Poor peer recognition	0.03*	0.39
Chefs skills reduced vs Chefs skills reduced	0.64	0.26
Failure of the product in the marketplace vs Failure of the product in the marketplace	0.00*	0.19

N=31 Original Respondents
* Values significantly correlated at the 5% significance level

Significant correlations indicate that the results provided by the respondents at both stages were identical. Non-significant correlations showed that the respondents' scores differed.

Significant negative correlations were obtained for the tender beef in thin slices for *increased staff costs, poor peer recognition, failure of the product in the marketplace* and *food safety* risk. This indicates that the product prototype matched the concept descriptions in terms of these risks for the menu planning decision makers. No correlations were obtained for the Fricadelle indicating that the product prototype did not closely match the concept descriptions for any of these risks.

The significant relationships between the results of the three surveys for product risks, interest in trying and purchase intention are summarised in Figure 10.2.

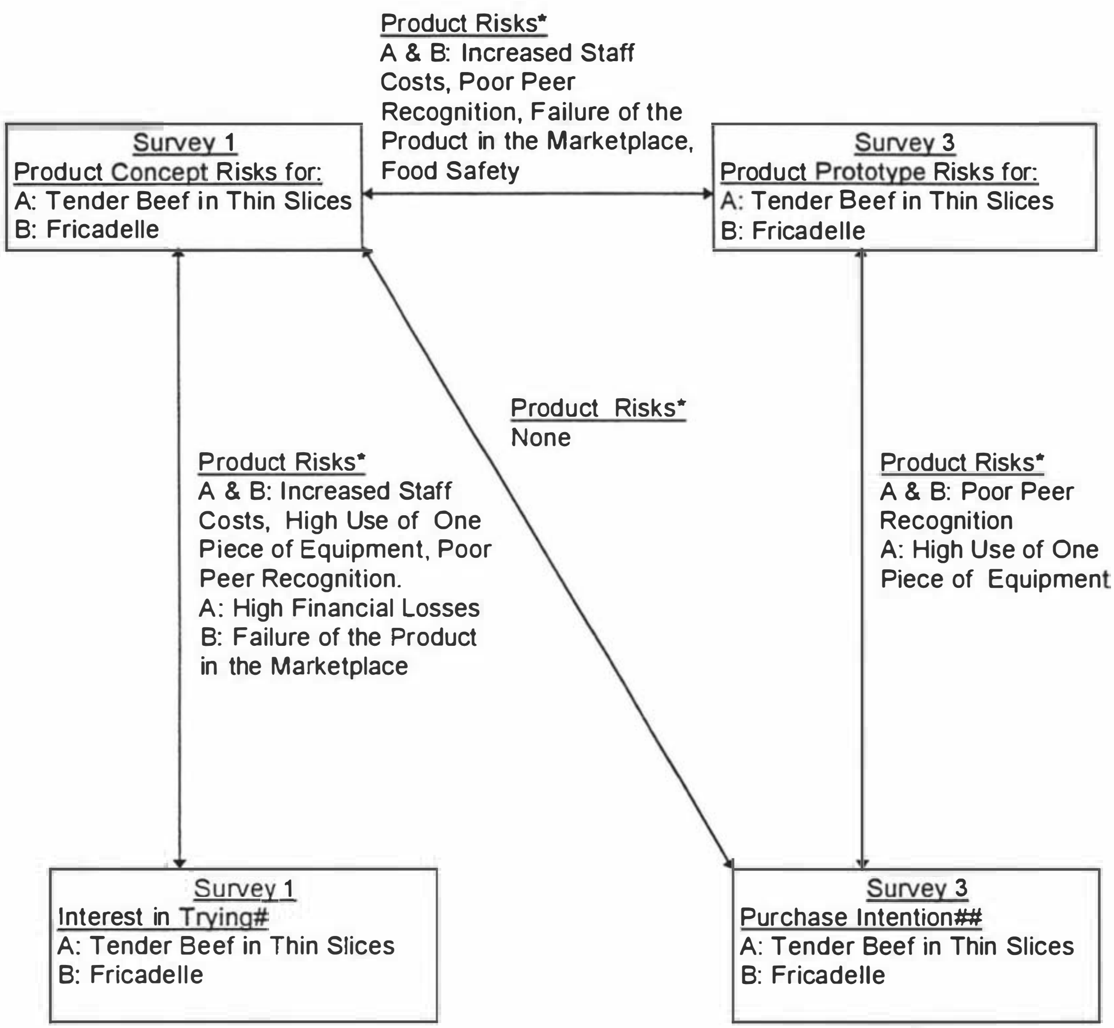
10.2.3 Intentions for Product Use

The intentions for use in terms of meal period suitability, outlet type, dish type and customer profile (age, gender and customer type) were compared for the product concepts using Survey 1 results and the product prototypes using Survey 3 results in order to highlight any changes in the menu planning decision makers views between their evaluation of the product concepts and the trials of the product prototypes.

*** Liking/Opinion of the Products**

The hedonic scores awarded to the two product prototypes and the 'Just Right' scores for the physical and sensory characteristics (Appendices 46 and 47) were consistent with those awarded by the larger group of 34 menu planning decision makers (see Chapter 8, Section 8.3).

Figure 10.2: Relationships between Product Risks*, Interest in Trying# and Purchase Intentions## for Surveys 1, 2 and 3



* Significant negative correlations obtained between product risk scores and product risks, interest in trying and purchase intention scores for the two new beef products across surveys 1 and 3.

* Outlet Types for the Products

The outlet types, suitable for use of the product, were compared for the product concept and the product prototype for both the tender beef in thin slices and the Fricadelle (Table 10.10).

Table 10.10: Outlet Types Suitable for the Two New Beef Products

Outlet Types	Tender Beef in Thin Slices		Fricadelle	
	Product Concept % (Number) of Outlets	Product Prototype % (Number) of Outlets	Product Concept % (Number) of Outlets	Product Prototype % (Number) of Outlets
Bistros	31 (15)	37 (16)	24 (8)	22 (5)
Public Bars	10 (5)	14 (6)	32 (11)	48 (11)
Functions/ Banquets	18 (9)	16 (7)	6 (2)	4 (1)
General Restaurants	22 (11)	14 (6)	15 (5)	13 (3)
Coffee Shops/Family Restaurants	8 (4)	9 (4)	6 (2)	0 (0)
Specialised Restaurants/ Food Courts	2 (1)	0 (0)	3 (1)	0 (0)
Fine Dining	4 (2)	5 (2)	3 (1)	0 (0)
Staff Canteen	2 (1)	0 (0)	6 (2)	4 (1)
Room Service	2 (1)	5 (2)	6 (2)	9 (2)
	N= 49 responses for 31 respondents	*N=43 responses for 28 respondents*	*N=34 responses for 28 respondents*	*N=23 responses for 20 respondents*

For the tender beef in thin slices more bistros were nominated at the product concept stage together with significant numbers of functions/banquets and general restaurants and some public bars. Bistros were even more strongly nominated at the product prototype stage with fewer general restaurants and more public bars than at the product concept stage.

For the Fricadelle more public bars followed by bistros and general restaurants were nominated at the product concept stage. The range of outlets nominated for the product prototype was narrower than at the product concept stage, the total number of outlets nominated falling from 31 to 23 with the proportion of public bars increasing.

Thus the menu planning decision makers defined a narrower range of outlets for both products at the prototype stage than at the concept stage placing the emphasis on bistros for the tender beef in thin slices and on public bars for the Fricadelle.

* **Meal Periods**

The meal periods nominated suitable for the two new beef products were consistent from the product concept evaluation to the product prototype trial (Table 10.11). The tender beef in thin slices was considered to be suitable for both lunch and dinner, while the Fricadelle was considered more suitable for lunch but also suitable for dinner.

Table 10.11: Meal Periods Nominated as Suitable for The Two New Beef Products

Meal Period	Tender Beef in Thin Slices		Fricadelle	
	Product Concept % (Number)	Product Prototype % (Number)	Product Concept % (Number)	Product Prototype % (Number)
Breakfast	0 (0)	4 (2)	4 (2)	8 (3)
Lunch	45 (22)	45 (24)	51 (24)	53 (20)
Dinner	51 (25)	47 (25)	30 (14)	24 (9)
Supper	4 (2)	4 (2)	15 (7)	16 (6)
	N=49 responses for 31 respondents	*N=53 responses for 31 respondents*	*N=47 responses for 31 respondents*	*N=38 responses for 30 respondents*

* Dish Types and Cooking Methods

Dish types nominated for both the product concept and the product prototype are shown in Tables 10.12 and 10.13. For the tender beef in thin slices stir fry dishes and braised beef olives were predominant suggestions at the product prototype stage compared to a much wider variety of suggestions at the product concept stage. This may be related to the fact that at the product concept stage they were given a wide variety of suggested uses for the product whilst at the product prototype stage they were provided with two recipes; a stir fry dish, Teriyaki Beef, and a braised beef olives style dish, Beef and Mushroom Roulades. This shows that provision of recipe information is important for new raw beef products as it provides the chefs with a start for idea generation in the planning of new dishes. However, as recipes obviously influence the menu planning decision makers those provided should be carefully chosen to provide the desired image for the product. Cooking methods nominated at each stage closely matched the dish suggestions (see Appendix 48).

Table 10.12: Dish Types Suitable for The Tender Beef in Thin Slices

Dish Type	Product Concept % (Number) of Responses	Product Prototype % (Number) of Responses
Stir fry	29 (16)	38 (25)
Beef olives	18 (10)	25 (16)
Asian Dishes	15 (8)	8 (5)
Medallions with a sauce	8 (4)	8 (5)
Stroganoff	7 (4)	6 (4)
Casserole	5 (3)	3 (2)
Schnitzel	0 (0)	5 (3)
Steak sandwich	2 (1)	6 (4)
Other or unspecified	14 (8)	2 (1)
	N=56 responses	*N=65 responses*

For the Fricadelle no dish ideas were provided for use of the product at the prototype trials. At the product concept stage a wider variety of dishes were suggested than at the prototype stage, the 'burger in a roll' style of dish being nominated most frequently indicating that the Fricadelle was seen largely as a fast food style burger. The major cooking method suggested at both stages was grilling (see Appendix 49).

Table 10.13: Dish Types Suitable for The Fricadelle

Dish Type	Product Concept % (Number) of Responses	Product Prototype % (Number) of Responses
Rissole/burger	36 (13)	4 (1)
Hamburger in a roll/submarine sandwich	19 (7)	78 (21)
Burger served with a sauce, tomato, cream or mushroom	11 (4)	4 (1)
Burger served with salad and chips	8 (3)	4 (1)
Mixed Grill	6 (2)	7 (2)
Other or unspecified dishes	20 (7)	4 (1)
	N=36 responses	*N=27 responses*

Thus, for both new beef products, the menu planning decision makers defined a narrower range of dish types at the product prototype stage than at the concept stage indicating that direct contact with the product provides more useful information for the adopter to envisage use of the product than a product description at the product concept stage.

* Customer Profiles

Customer profiles predicted for the two new beef products for both the product concepts and the product prototypes are shown in Table 10.14.

The age ranges predicted at the prototype stage for customers for both products were very similar to those predicted at the product concept stage. However, at the prototype stage more male customers were predicted for the Fricadelle while for the tender beef in thin slices the customers were expected to be more mixed. For both products fewer families and more business people were expected, particularly for the Fricadelle.

Table 10.14: Customer Profiles for the Suggested Dish Types for the Two New Beef Products

Customer Characteristics	Tender Beef in Thin Slices		Fricadelle	
	Product Concept	Product Prototype	Product Concept	Product Prototype
Age Group	*135 responses for 31 respondents*	*145 responses for 31 respondents*	*68 responses for 31 respondents*	*43 responses for 31 respondents*
< 20 years	11 (15)	10 (15)	18 (12)	16 (7)
20-34 years	30 (40)	30 (43)	43 (29)	47 (20)
35-49 years	25 (34)	31 (45)	22 (15)	19 (8)
50-64 years	19 (25)	14 (21)	12 (8)	9 (4)
> 64 years	16 (21)	14 (21)	6 (4)	9 (4)
Gender	*56 responses for 30 respondents*	*65 responses for 31 respondents*	*36 responses for 31 respondents*	*27 responses for 31 respondents*
Males	27 (15)	23 (15)	25 (9)	44 (12)
Females	9 (5)	2 (1)	0 (0)	0 (0)
Males & Females	64 (36)	75 (49)	75 (27)	56 (15)
Type of Customer	*84 responses for 31 respondents*	*124 responses for 31 respondents*	*48 responses for 31 respondents*	*41 responses for 31 respondents*
Business People	24 (20)	27 (33)	10 (5)	24 (10)
Families	15 (13)	7 (9)	27 (13)	7 (3)
Shoppers	4 (3)	6 (8)	13 (6)	12 (5)
Social/Celebration	15 (13)	15 (19)	4 (2)	7 (3)
Regular Customers	20 (17)	24 (30)	21 (10)	22 (9)
Mixture	21 (18)	20 (25)	25 (12)	27 (11)

The customers for the tender beef in thin slices were predicted to be mostly in the 20-34 and 35-49 years age ranges, a mixture of males and females and a mixed group including approximately one quarter business people and one quarter regular customers. The Fricadelle was predicted to attract more of the 20-34 years age group, a mixture of males and females, probably with more males and a mixed group including approximately one quarter business people and one quarter regular customers.

10.3 Discussion

The sample of 31 original menu planning decision makers was shown to be representative of the groups of respondents participating in all of the surveys in this study. Through an assessment of this group's progress it was shown that three groups of factors, which affected the decision making process, changed during the course of this study of the new beef product adoption process.

10.3.1 Representativeness of the Sample

Environmental factors were selected to test that the sample of 31 menu planning decision makers was representative of the larger groups of respondents participating in the three surveys. As with the larger groups this group was shown to:

i) offer opportunities for the introduction of new products by changing their main menus frequently, at least once every three months, introducing new dishes or specials at least once a week and almost half of the outlets requiring the purchasing of more than 10 new ingredients at main menu changes and a quarter requiring this number between main menu changes;

ii) use the same sources for information about new products and be most influenced by those sources involving direct contact with people and/or the product;

iii) use the same suppliers, wholesalers for raw beef products, and a mixture of wholesalers and distributors for prepared ready-to-cook and pre-cooked beef products;

iv) exhibit the same supplier loyalty, particularly for the raw beef products;

v) use the same steps in menu planning with slightly less emphasis on practical stages and the Chefs in Charge having the greatest involvement and influence in deciding upon purchasing specifications;

vi) use the same methods of menu analysis with the emphasis on customer feedback.

10.3.2 Changes in Factors Affecting the Decision Making Process in New Beef Product Adoption

Three main groups of factors were shown to change as the new beef product adoption process progressed: product benefits; perceived risks; intentions for the products in use.

*** Product Benefits**

From concept evaluation to prototype trial benefits for the tender beef in thin slices continued to score well for *value for money,* and for *quality* the scores rose. Further, from the importance scores of the benefits looked for in new raw beef products, the tender beef in thin slices would be expected to receive a high proportion of positive purchase intentions. This was confirmed by both the actual purchase intentions and the significant positive correlations obtained between the product prototype benefits of *quality* and *value for money* and purchase intention.

From concept evaluation to prototype trial the Fricadelle continued to score poorly for *quality,* and for *value for money* the scores fell. Further, from the menu planning decision makers' importance scores of the benefits they looked for in new prepared ready-to-cook beef products, the Fricadelle would be expected to receive a low proportion of positive purchase intentions. This was confirmed by the actual purchase intentions and the significant positive correlation obtained between the product prototype benefit of *quality* and purchase intention.

Thus, as there were no significant correlations between the product concept benefits scores and the purchase intentions and the only significant correlation between the benefits scores of the product concept and product prototypes was *versatility* for the Fricadelle, changes must have taken place in the menu planning decision makers' perception of the product benefits from evaluation to trial stages of the new beef product adoption process.

***   Perceived Risks**

From concept evaluation to prototype trial 'No Risk' scores of perceived risks for both products were reduced, particularly for *poor peer recognition* and *failure of the product in the marketplace. Poor peer recognition* was the most critical risk showing significant negative correlations with purchase intention for both prototype products.

Further, as there were no significant correlations between the perceived risk scores for the product concepts and product prototypes for either of the products or between the product concept risk scores and purchase intentions, changes must have taken place in the menu planning decision makers' perception of the product risks during the course of the evaluation and trial stage of the new beef product adoption process.

***   Intentions for the Product in Use.**

The narrowing of the range of predicted uses for the products from concept evaluation to prototype trial in terms of outlet types, dish types and customer profiles indicates that the menu planning decision makers need to test the prototype before they can clearly define how they would use the product. Ideas for use of the product were shown to be forming at the concept stage but became more focussed at the prototype stage when the menu planning decision makers had chance to test the products. For the tender beef in thin slices the dish types suggested reflected the influence of the recipes provided with the product prototype.

Thus, prototype trials produced different results to concept evaluation for all three of the factors of product benefits, perceived risks and intentions for use of the products. These changes, from concept to prototype, and the lack of significant correlations between product benefits and risks at the evaluation stage and purchase intention after prototype trials, indicate that the evaluation and trial component of the new beef product adoption model comprises of two clearly distinguishable stages: concept evaluation and prototype trial.

10.4 Conclusions

* The sample of 31 menu planning decision makers, who participated in all three surveys, were representative of the larger groups of respondents in each survey.

* 'Evaluation and Trial', the second stage in the proposed New Beef Product Adoption Model, was shown to comprise of two clearly distinctive stages; one involving product concept evaluation, the other trial of the product prototype.

CHAPTER 11
DISCUSSION AND CONCLUSIONS

This study was designed to test the model of the new beef product adoption process and the factors affecting the process which arose out of the literature review. The *in vivo* approach to the testing of this model was used to assess linkages between the developer's new beef product development process, the new beef product adoption process, and the adopter's own new product development process. The nature of the developer/adopter relationship was defined.

Recommendations for further research arising from this study were made.

11.1 The Need for New Beef Products by Hotels and Motels

In hotels and motels the core of the foodservice operation is the menu. New dishes may be planned for the menu, existing dishes retained or redesigned, but for all dishes ingredients have to be purchased, whether currently in use or new to the operation. Such purchases involve the three buyclasses: straight rebuy; modified rebuy; new task (Robinson et al., 1967). The menu planning process, which involves the development of new dishes was, therefore, incorporated into the proposed new beef product adoption model as the central process driving the purchase of new ingredients and products.

Beef was shown by the exploratory market research, undertaken in hotels and motels in Greater Melbourne, to be an important menu component. This supports the findings of the Australian Meat and Live-stock Corporation (1989, 1992) and Technomic Dodwell Consultants (1993) and justifies the selection of beef as the focus of the proposed new product adoption model.

This study affirmed that opportunities do exist for the introduction of new beef products into the Hotels/Motels market segment. Foodservice operations in hotels and motels were shown to make frequent menu changes and to use the 'Specials' menu for daily or weekly introduction of new dishes. In addition the large number of new ingredients purchased at and between main menu changes demonstrated the continuing need for new products.

The exploratory market research provided a framework for idea generation in the supplier's new beef product development process, identifying both the needs of chefs and 'gaps' in the menu for new beef dishes. It was shown that saving chefs' time, enabling them to serve a large number of meals efficiently and providing ways of overcoming the shortage of skilled staff, were important needs to be fulfilled by new beef products. In addition 'gaps' in the menu were identified for beef entrée dishes and for children's menu items.

Application of a multi-stage screening process reduced the new beef product ideas to five, which were representative of the three new beef product types; raw, prepared ready-to-cook and pre-cooked. The five product concepts, developed from these ideas, enabled testing of the proposed new beef product adoption model to be carried out *in vivo* with the author utilising the responses of the menu planning decision makers in the development of the new beef products for adoption.

11.2 The New Beef Product Adoption Process

* **Four stages in the new beef product adoption process used by the hotel and motel foodservice operations in Greater Melbourne were demonstrated to be:**
  1. **Product Awareness and Interest;**
  2. **Product Concept Evaluation;**
  3. **Prototype Trial;**
  4. **Product Adoption (including Post-purchase Evaluation).**

Figure 11.1 on page 245 provides an outline of the model of the new beef product adoption process compiled from results of the *in vivo* testing. The four stages identified were similar to the three used by Martilla (1971) which were based upon

Rogers' original work (Rogers, 1962). Martilla had combined stages in the Rogers' model reducing them to three; awareness and interest, evaluation and trial and adoption. However, in this study of new beef product adoption *evaluation and trial* were shown to be two separate stages; product concept evaluation and prototype trial.

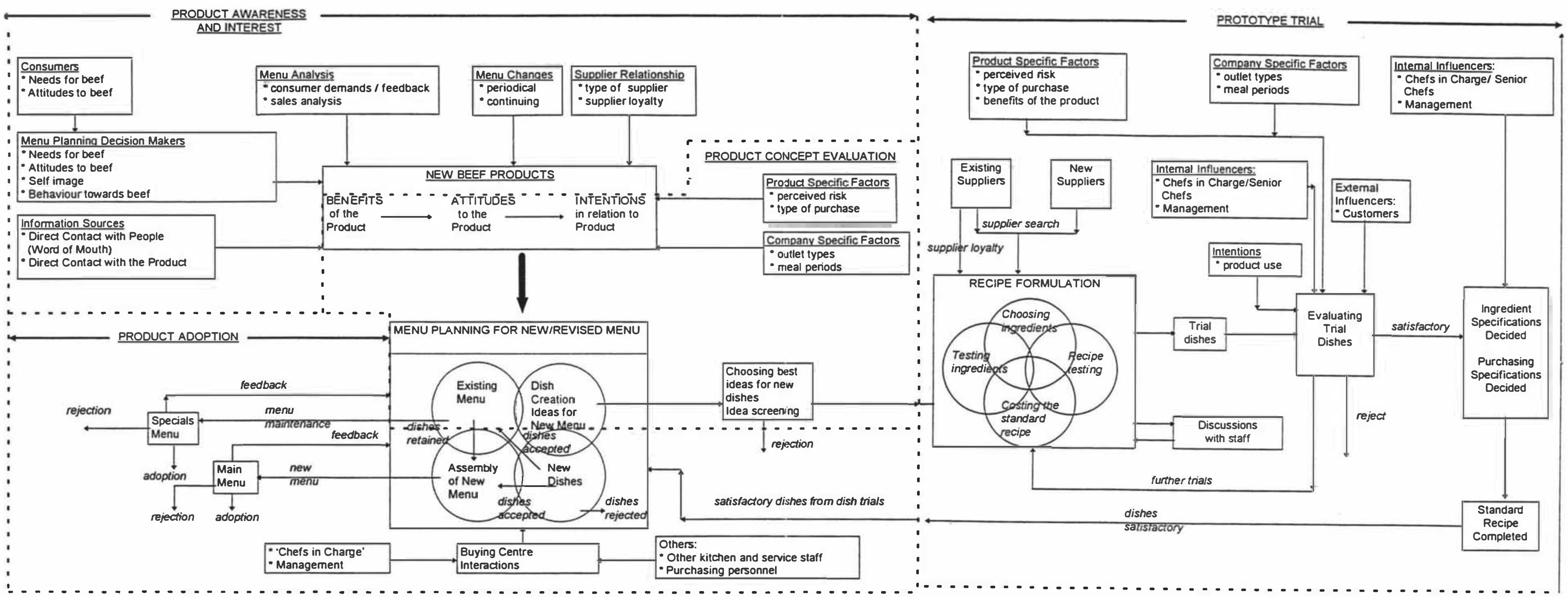
11.3 Factors Affecting Stages in the New Beef Product Adoption Process

The factors affecting the four stages of the new beef product adoption process were demonstrated to involve a combination of those incorporated in the Robinson et al. (1967), Webster and Wind (1972) and Sheth (1973) models of industrial and organisational buying behaviour as well as those specific to foodservice which relate to the menu planning process.

The new beef product adoption model was shown to include several of the factors affecting the expectations of the individuals involved in the buying process as indicated in Sheth's (1973) model, including information sources, product specific factors and company specific factors. However, unlike the Sheth model, this model neither includes influence of the background of individuals as a factor nor does it provide details of the interactions between individuals in the joint decision making process. These two factors were beyond the scope of this study and need to be undertaken in the research to further develop the detail of this model.

The Webster and Wind (1972) model placed a greater emphasis on the effects of factors from the broader environment and within the organisation, and included both task and non-task variables, while the new beef product adoption model places the emphasis on task variables dictated largely by the menu planning process. The inclusion of the stages of the foodservice new product development process in this model differentiates it from both the new product adoption process models of Rogers (1962) and Webster (1969) and the industrial and organisational buying behaviour models of Robinson et al. (1969), Webster and Wind (1972) and Sheth (1973) .

Figure 11.1: The New Beef Product Adoption Model



11.3.1 Stage 1: Product Awareness and Interest

This is the stage when the menu planning decision makers, motivated by the constant need to develop new dishes for their menus, become aware of the existence of new products. Feedback from customers was shown to be an important means of assessing the success of menu items and hence determining need for new products.

* **Direct word of mouth communication between developer and adopter is an important information source for the adopter.**

The importance of the sales representatives of distributors shown by this research support the findings of Webster (1970) and Martilla (1971) whose work emphasised the importance of direct word of mouth communication, with the manufacturers' salesmen playing a key role.

* **Menu planning decision makers tend to stay with their existing suppliers of beef products as long as there are no compelling reasons to change (supports Hypothesis H3).**

* **Supplier loyalty to the meat wholesaler is characteristic of menu planning decision makers for the purchase of new raw beef products.**

* **Hotel and motel foodservice buying behaviour for new beef products is a function of supplier characteristics (supports part of Hypothesis H1).**

* **The relative importance of the product and supplier attributes will vary across the three types of purchase situation for: new raw beef products; new prepared ready-to-cook beef products; new pre-cooked beef products (supports Hypothesis H2).**

There was shown to be a very high degree of supplier loyalty, notably to the meat wholesaler, for the purchase of new raw beef products supporting Wind's (1970) finding. The numbers of operations purchasing prepared ready-to-cook and particularly pre-cooked beef products were relatively small, a greater variety of supplier types were used for these products and supplier loyalty was less pronounced than for new raw beef products.

Customer demand was shown to be the method most used by menu planning decision makers for analysing their menus. It reflects a consciousness of the consumer, who, as shown by the exploratory market research, wants variety. With the majority of hotel and motel foodservice outlets changing their menus at least once every three months and offering new dishes or new specials at least once a week, the search for new ideas, and hence new products, is continuous.

* **Menu planning decision makers in hotels and motels form a relatively homogeneous group with basic chef training and a breadth of work experience interstate and/or overseas.**

In this study the majority of menu planning decision makers were shown to have had only basic chef training, involving an apprenticeship and the award of a certificate in cookery, but had worked overseas and/or interstate within Australia. The majority were between the ages of 24 and 35 years. Few were members of professional associations. The menu planning decision makers involved in this research were, therefore, essentially a very homogenous group thus preventing the testing of Hypotheses H6, H7 and H8 relating to the training, experience and professional activities of menu planning decision makers to risk taking, innovation and early new beef product adoption.

11.3.2 Stage 2: Product Concept Evaluation

Five product concepts representing the three new beef product types were evaluated. The responses to the two concepts selected for development were then utilised in the product design specifications.

* **Concept evaluation involving the adopter is a vital stage in the new product development process for satisfactory development of product design specifications.**

Provision of product concept descriptions, which included details of product characteristics and suggestions for their use, enabled the menu planning decision makers to assess a small range of product benefits and risks, to express their interest in trying the product and to state their intentions for the product in use. From their responses it was possible to select the two preferred 'best' product concepts and to proceed to establish the design specifications. At the product prototype trials the critical factors affecting purchase intentions were then related both to whether the menu planning decision makers liked the product prototypes in terms of suitability for their particular operations and to their assessments of product benefits and risks. This study showed that involvement of the new product adopter in the concept evaluation stage of the supplier's new product development process leads to product design specifications which are acceptable to the adopter. This finding supports the recommendations of Cooper (1983), Cooper and Kleinschmidt (1986) and Mahajan and Wind (1992) that the concept stage should not be omitted from the product development process; rather it is necessary to provide the adopter with the opportunity to contribute to the design specifications.

* **The relationship of product benefits and perceived risks with interest in trying the products, which were representative of the different new beef product types, distinguish the ways in which menu planning decision makers perceive the effects of different degrees of added value.**

* **The decision to try a new beef product is related to cost, quality and the need to save time (supports part of Hypothesis H4).**

* **Menu planning decision makers consider 'Customer Oriented' benefits to be more important than the more practical 'Chef Oriented' benefits when assessing new beef products.**

* **Menu planning decision makers are more reluctant to trial a new beef product the higher they perceive the risk (supports Hypothesis H5).**

For the product concepts which were representative of the three new beef product types interest in trying the product was found to be positively related to the product benefits: *need, value for money* and *versatility* and to be negatively related to the risks of *failure of the product in the marketplace* and to *poor peer recognition.* Distinguishing benefits between the three product types that were related to interest in trying the product were for *time saved* for the raw beef product (tender beef in thin slices) and *quality* for both the prepared ready-to-cook and the pre-cooked products. These results imply that the menu planning decision makers are suspicious of products which have had more work done on them other than tasks which would involve butchery skills and for which there is a shortage of skilled staff. An additional risk related to interest in trying the prepared ready-to-cook and pre-cooked products was the risk of *reduction in chefs' skills* reinforcing the fear of a loss of professional status by the menu planning decision makers, particularly for new beef products with greater added value.

Of the product benefits that menu planning decision makers looked for when deciding to try products from the three new beef product types, 'Customer Oriented' benefits were found to be the most important followed by 'Chef Oriented' benefits. The most important 'Customer Oriented' benefit for all three types was *value for money* and for the prepared ready-to-cook and the pre-cooked types *quality for purpose* was the second most important. Of the 'Chef Oriented' benefits *minimal wastage* was most important for the raw and prepared ready-to-cook types while *to save labour* was most important for the pre-cooked type. The importance of *value for money,* a benefit related to price, corroborates one of the findings of Lehmann and O'Shaughnessy (1974) that price is one of the three major benefits dominating industrial buying decisions. The dominance of economic related criteria over performance criteria in this study also supports the findings of Lehmann and O'Shaughnessy (1982) for standard products with a simple composition. Further, the risks of *poor peer recognition* and *skills reduction* associated with these products place the purchase situation into Lehmann and O'Shaughnessy's (1974) 'political problems' category which they report as being the most crucial to the buyer, even more than 'performance problem' purchase situations.

* **Menu planning decision makers begin to formulate their intentions for the use of new beef products at the concept evaluation stage.**

Menu planning decision makers were able to suggest for which meal periods, and in which outlets, they would offer dishes made from the new products, but with less clarity than at the prototype trial stage.

Figures 11.2A summarises the benefits looked for in a new beef product while Figure 11.2B provides a summary of the benefits and risks as they related to the product concepts and product prototypes developed during the testing of the new beef product adoption model.

Figure 11.2A: Benefits Looked for in a New Beef Product - by Type

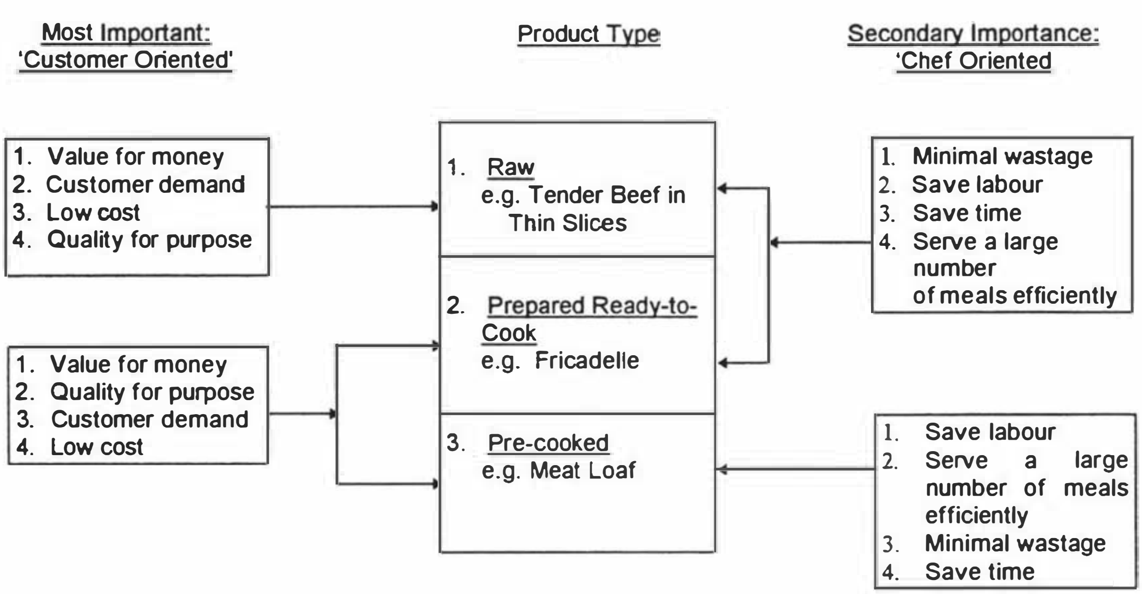
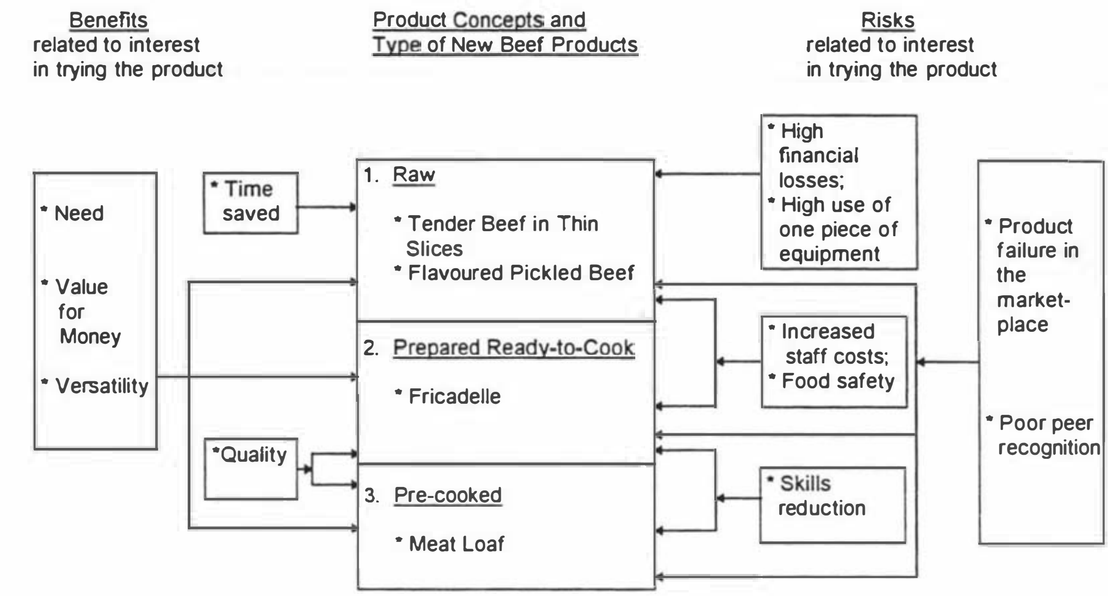
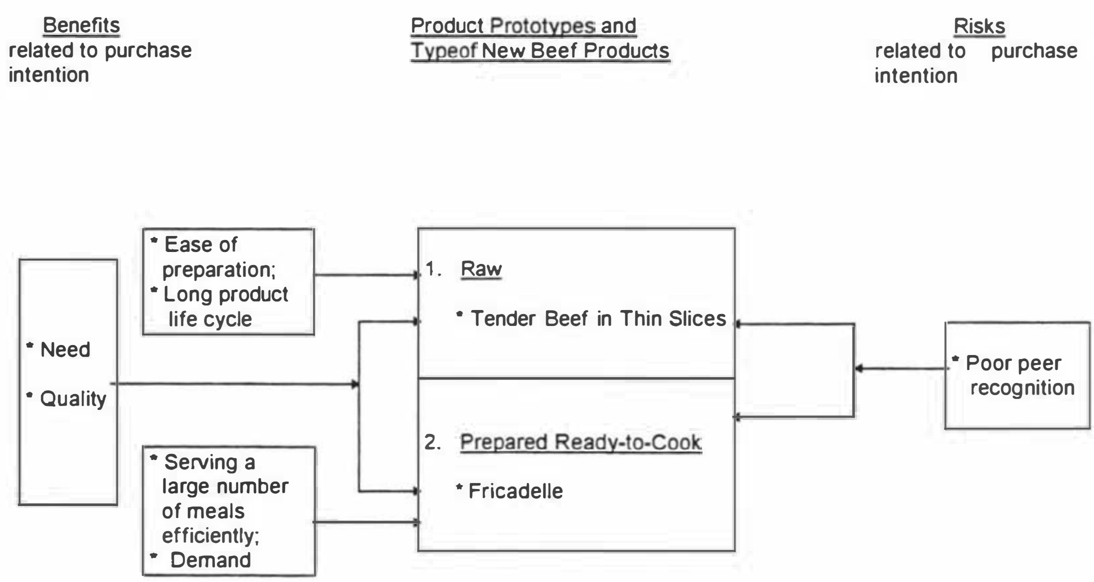


Figure 11.2B: **Benefits and Risks for Product Concepts and Product Prototypes**





11.3.3 Stage 3: Prototype Trial

Two new beef product prototypes were tested and evaluated. Responses to the two products were related to purchase intentions in order to highlight factors affecting this stage.

* **Consumer trials are necessary to ensure that the product is acceptable to the consumers before the menu planning decision makers test the prototype.**

The importance of 'Customer Oriented' benefits to menu planning decision makers indicates that the developer should carry out consumer trials and supports Jewson's (1991) assertion that consumer trials are an important part of product optimisation.

* **Simulated hotel bistro settings are a suitable way to test consumer acceptability of new beef products *in vivo*.**

This confirms the recommendation of Reeve et al. (1992) that meal acceptability is best studied in this way rather than in a sensory booth.

* **The decision to buy a new beef product is related to quality (supports part of Hypothesis H4).**

At the product prototype testing stage *need* for the product and *quality for purpose* were positively related to purchase intention for both the raw and the prepared ready-to-cook beef products. Other benefits were also related to purchase intention; for the raw product *ease of preparation* and *long life cycle*; for the prepared ready-to-cook product *serving a large number of meals efficiently* and *customer demand. Quality* was identified by Hakansson and Wootz (1975) and Puto et al. (1985) as a major benefit in industrial marketing, but their other benefits were not confirmed by this study. Economic performance factors were critical for both products and the relative importance of other factors was dependent upon the product type as found by Lehmann and O'Shaughnessy (1974).

Prototype trials were found to enable the majority of menu planning decision makers to reach a purchase intention decision.

* **Menu planning decision makers are more reluctant to purchase a new beef product the higher they perceive the risk (verifies Hypothesis H5).**

* **The determining risk for the purchase of new beef products is related to the menu planning decision maker's perception of his/her professional status.**

The perceived risk factor which was negatively related to purchase intention was *poor peer recognition.*

Positive relationships of product benefits to purchase intention may, if the benefits scores are good, place the product at a relative advantage compared to others. Negative relationships of perceived product risks to purchase intention may, if the scores indicate high risk, place the product at a disadvantage compared to others and counteract the product benefits or relative advantage. These findings compare with those of Holak and Lehmann (1990) demonstrating the relationships between the perceived attributes of relative advantage and perceived risk with purchase intention.

* **The results of prototype trials provide a better indication of purchase intention than concept evaluation.**

Product trials by foodservice operations involve several steps. The adopter is required to test the product by using it in dish trials. At the product concept stage the menu planning decision makers had clear ideas for use of the products. However, these intentions changed and became more clearly defined when they had tested the products. Prototype trials provided the menu planning decision makers with the opportunity to assess product benefits more accurately and to reduce perceived risk. Prototype testing was shown to be a better vehicle for assessing the benefits and risks of the product in relation to purchase intention, as benefits and risks scored at the product concept stage did not relate to purchase intention, but only to interest in trying the product.

* **Buying behaviour for new beef products is not a function of the number of foodservice outlets operated by the hotel or motel (confutes part of Hypothesis H1).**

Characteristics of the company in terms of number of outlets in the foodservice operations were not shown to affect the purchasing decision.

11.3.4 Stage 4: Product Adoption

The relationships between the steps used by menu planning decision makers in their own new product development process, menu planning, and the trial and adoption stages in the new beef product adoption process were investigated in order to identify the boundaries between these two stages.

* **The menu planning process is not followed in a systematic way by menu planning decision makers.**

* **Menu planning, as practised by menu planning decision makers in hotels and motels, has a strong practical orientation, involves little documentation and exhibits low levels of communication with suppliers.**

The greater number of steps in menu planning occur at the time of product trials and adoption. The steps used by the majority of menu planning decision makers were shown to be those with economic performance and practical orientations. Steps involving documentation and the adopter's relationship with suppliers were the least used. The sequence of the first three steps was defined as: ideas for new dishes;

choosing the best new ideas, and; recipe formulation. The next three steps were identified as: choosing ingredients; testing ingredients and products, and; costing the standard recipe; but the sequence was not clearly defined all three being closely associated with the preceding step, recipe formulation.

* **The 'Chefs in Charge' are the most involved and most influential group both in dish evaluation and in deciding upon purchasing specifications.**

The 'Chefs in Charge' were the personnel who were most involved in making the purchasing decision supporting the work of Pingry (1974) and Anderson et al. (1987) who showed that the skilled or technical personnel had the most dominant role in a 'new task' purchase.

* **Post-purchase evaluation is an essential component of the adoption stage.**

Menu planning decision makers considered that further trials were necessary for post-purchase evaluation and the 'Specials' menu was shown to be a form in which further trials may be undertaken as well as a way in which the product may be placed on the menu.

Purchase intention is, therefore, only an indication of the first purchases, not of adoption itself, corroborating the work of Lambert et al. (1977) who suggested "that post-choice evaluation provides guidance for future decision making". This confirms the provision for recycling of steps at the Trial/Adoption interface in the model.

* **Hotel and motel foodservice buying behaviour for new beef products is a function of product characteristics (verifies part of Hypothesis H1).**

The new raw beef product, the tender beef in thin slices, received a greater proportion of positive purchase intentions than the prepared ready-to-cook new beef product, the Fricadelle. The Fricadelle was considered unsuitable for some types of foodservice operations particularly where the chefs preferred to prepare everything themselves and the customers expected products to be "home-made". The tender beef in thin slices was more acceptable as it was easy to prepare yet still needed more creative preparation work, and could be included in a variety of dishes so that chefs could very easily make the product 'their own'. In addition the risk of *poor peer recognition* was lower than for the Fricadelle reinforcing the importance of the menu planning decision makers' perception of their professional status. The tender beef in thin slices was, therefore, more compatible with the status quo than the Fricadelle, reflecting the findings of Holak and Lehmann (1990) on the relationship between relative advantage, compatibility, perceived risk and purchase intention and indicating that the tender beef in thin slices was probably seen as a continuous innovation (Robertson, 1967).

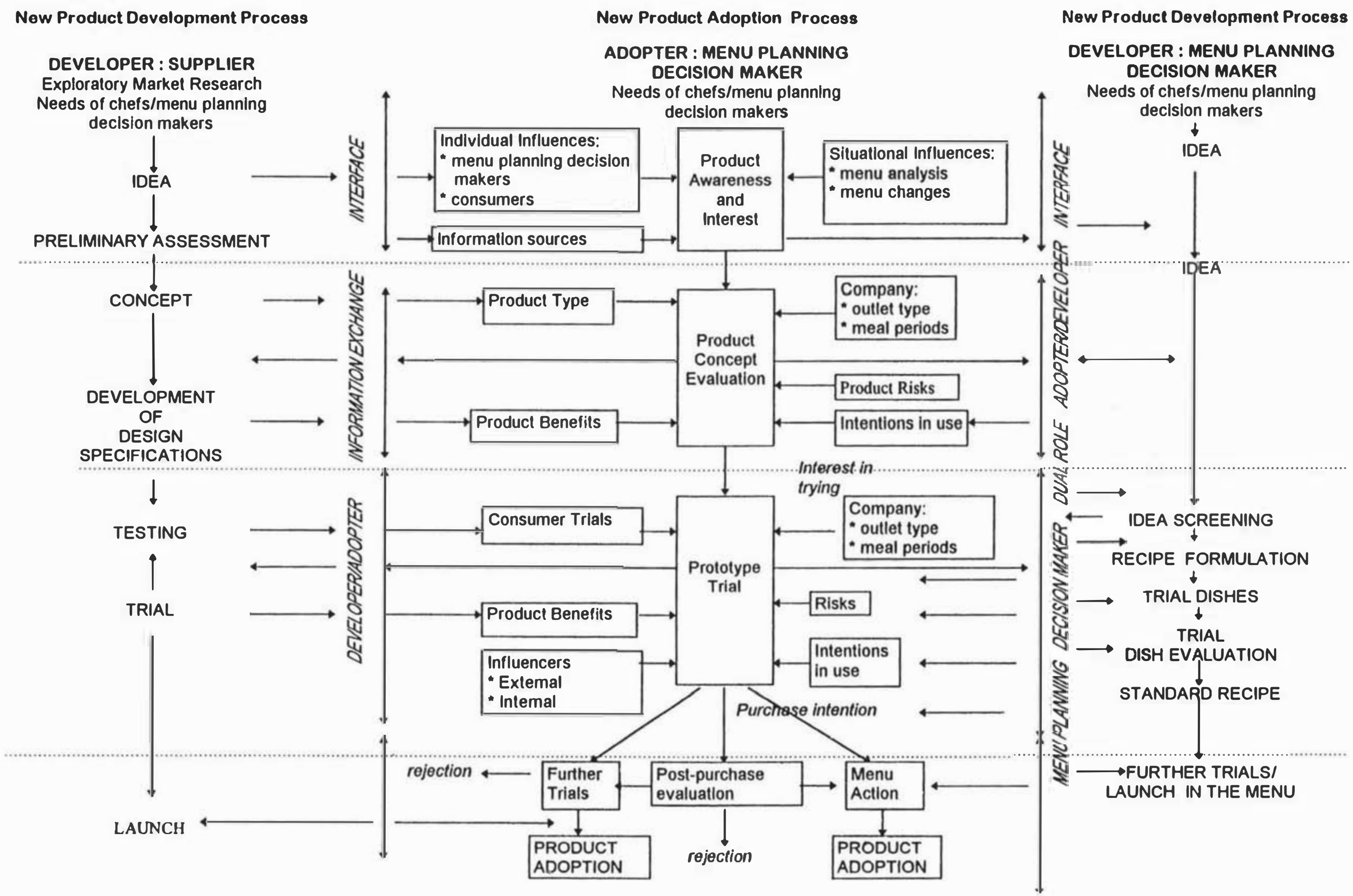
11.4 Developer/Adopter Relationship

* **The *in vivo* method of testing a model rather than carrying out *ex post facto* research has enabled the developer/adopter relationship between beef supplier and hotel/motel menu planning decision makers to be modelled.**

Figure 11.3 shows the links between the suppliers' new product development process modelled on the process suggested by Cooper (1983), the new beef product adoption process proposed in this study, and the new product development process used by menu planning decision makers.

The vital links between the developer and adopter to guide the supplier's new product development process are at the new product adoption awareness and interest stage and the idea stage of the new product development process. Provided that the product concept description has sufficient detail, feedback from the adopter can be used to guide development of the product design specifications. Consumer orientation of menu planning decision makers reinforces the need for the developer to carry out consumer trials before the prototype trials.

Figure 11.3: Developer/Adopter (Supplier/Menu Planning Decision Maker) Relationship



Further information exchange takes place at the prototype trials stage when the adopter passes through several stages of his/her own new product development process; ideas for new dishes, choosing the best new ideas, recipe formulation and dish trials. Once the purchase intention has been formed the supplier must have the product available to enable the adopter to continue with the Adoption stage. This will involve placing the product on the menu as a 'Special' and/or to carry out further trials to complete the post-purchase evaluation and hence the adoption process.

11.5 Recommendations for Further Research

* **The effects of background of the menu planning decision makers on the new beef product adoption process.**

Hypotheses H6, H7 and H8 were not tested as the backgrounds of the menu planning decision makers were very homogenous and so the size of the sample was not large enough for statistical analyses, bearing out the comments of Anderson et al. (1987) about the problems of gathering enough data sufficient for statistical analysis when testing organisational behaviour models. Further research is, therefore, needed into the effects of the background of the menu planning decision makers on the model.

* **The steps used in menu planning**

The steps used in menu planning need further research. The lack of a systematic method used by all menu planning decision makers and the low use of steps involving supplier-buyer communications indicates that a normative model for menu planning decision making is needed which places a greater emphasis on the supplier-adopter relationship. Such a model would assist in further development of the parts of the new beef product adoption model which involve communication between the adopter and the supplier.

* **Application of the new beef product adoption model to other food commodities.**

The principles of the model need to be tested with a range of fresh commodities including other meats and seafoods to verify the model's wider applicability. In particular the product benefits and risks associated with all industrial products need to be differentiated from those characteristic of food products for the foodservice industry.

11.6 Conclusions

11.6.1 Developer/Adopter Relationship

A model of the developer/adopter relationship between the supplier and the menu planning decision maker has been constructed from the results of this study. This model also incorporates the menu planning decision makers new product development process which operates synchronously with the new product adoption process as well as the suppliers' new product development process.

Both the developer's (the supplier) and the adopter's (the menu planning decision maker) new product development processes correspond to the model proposed by Cooper (1983), the adopter's process being defined by terms used in menu planning.

* **The Developer/Adopter Information Exchange Interface**

Before the developer reaches the concept stage, the idea stage and preliminary assessment must be completed. This involves thorough preliminary market research which highlights the needs of the adopter and so guides the new product development process through to the concept stage. Menu planning decision makers must be aware of new products in order to become interested and enter their own idea stage. When offered detailed product concept descriptions they can provide valuable feedback to guide the developers in the development of design specifications. The menu planning decision makers then remain at the evaluation stage until they receive a sample of the prototype to try. Before the prototype trial the developer must conduct consumer tests to check prototype acceptability.

*** Menu Planning Decision Makers' Dual Role: Adopter/Developer Interface**

At the same time as the prototype trial the adopter passes very rapidly through several stages of the foodservice operation's own new product development process for new dishes; ideas for new dishes, choosing the best ideas, recipe formulation involving selecting ingredients, testing ingredients, recipe costing, recipe testing, and dish trials involving dish evaluation. Once the menu planning decision maker has made a purchase decision the product is then either rejected or passes into the adoption stage when it may be used in the menu and/or undergo further trials. This is post-purchase evaluation and the adopter's own product launch stage. For the adoption stage to progress the supplier must have the product available. This requires prior organisation of the launch during the adopter's trial period.

11.6.2 Important Factors in New Beef Product Adoption

Factors important for new beef product adoption relate to the developer/adopter relationship, the personnel involved and the product.

*** Developer/Adopter Relationship**

Menu planning involved low levels of documentation and communication with suppliers. Direct word of mouth communication between the supplier and the adopter and direct contact with the product were important sources of information. Loyalty to the supplier was strong, particularly to the meat wholesaler. The degree of loyalty depended upon both the type of new beef product and the supplier.

Involvement of the adopter at the concept evaluation stage was critical in the development of the design specifications. Consumer testing of the prototype in a simulated foodservice setting was necessary to ensure that the foodservice customers found the product acceptable before the adopter received it.

* **The Personnel Involved**

The menu planning decision makers in the hotels and motels were a homogenous group with basic chef training and a broad range of work experience overseas and/or interstate within Australia. This group was very protective of its professional status particularly in terms of peer recognition and maintenance of skills so placing a limitation on the extent to which value can be added to the new beef products. This emphasises that new beef products should be continuous innovations and exhibit compatibility with chefs' ideals. The 'Chefs in Charge', particularly Executive Chefs and Head Chefs, were found to be the most involved and influential personnel throughout the new beef product adoption process.

* **The New Beef Product**

The relationships between interest in trying the product, purchase intention and product benefits and risks were dependent upon the type of new beef product. Quality was the most critical benefit for all product types and 'Customer Oriented' benefits including economic performance-related benefits were more critical than the more practical 'Chef Oriented' benefits. The greatest critical risk was poor peer recognition.

11.6.3 The New Beef Product Adoption Model

The new beef product adoption process is comprised of four stages:

* **Product Awareness and Interest;**
* **Product Concept Evaluation;**
* **Prototype Trial;**
* **Product Adoption (including Post-purchase Evaluation).**

In the hypothetical model three stages were proposed, Evaluation and Trial being the second stage. In this study Product Concept Evaluation and Prototype Trial are two distinguishable stages. When the developer includes the concept evaluation stage in the new product development process, and involves the adopter, an evaluation process clearly takes place which has an identifiable function and which can be differentiated from that of the prototype trial stage. Prototype trials were better predictors of purchase intention than product concept evaluation. Further trials and the use of the 'Specials' menu emphasised the importance of post-purchase evaluation at the adoption stage.

The size of the foodservice operation was not found to be a function of buying behaviour for new beef products. The critical issues revolved around the menu planning decision maker's perception of the product in terms of economic performance and its compatibility. It is vital for successful new beef product development that the supplier develops an information exchange with the adopter by means of concept evaluation and prototype trials in order to optimise benefits, minimise risks and maximise product compatibility.

This first model of the new product adoption process for foodservice incorporates factors common to previous industrial buying behaviour models and identifies factors characteristic of foodservice operations and their new product development process, menu planning. It emphasises the importance of clearly defined channels of communication between suppliers and menu planning decision makers for most effective product development and new product adoption.

APPENDICES

APPENDIX 1

EXPLORATORY MARKET RESEARCH: REPORT SUMMARY

Summary of the Research Report, *An Exploratory Study into the Use of Beef by Hotels, Motels, Cafes and Restaurants in Metropolitan Melbourne*[1]*, Victoria, Australia* prepared by Linda M. Roberts and presented to the Meat Research Corporation and the Australian Meat and Live-stock Corporation in June, 1993.

The aim of the research was to evaluate the utilisation of beef in Hotels, Motels, Cafes and Restaurants in Australia and to identify possible areas for product development. The utilisation of beef was studied qualitatively from both a chef and consumer perspective to assess the potential for new added value beef products.

The study focussed on Hotels, Motels, Cafes and Restaurants in Metropolitan Melbourne. In-depth interviews with menu planning decision makers were used to ascertain purchase form, sources of supply, purchasing behaviour in relation to beef, expenditure on beef, and sales of beef entrées and main courses. To further understand the patterns of buyer behaviour, focus groups with chefs were used to highlight problems or constraints which chefs were facing in their foodservice operations. Consumer focus groups were used to ascertain consumer attitudes to eating out and any opportunities consumers might perceive for beef. Both the chef and consumer information was used to identify areas for product development.

This study showed:

* The market for beef in Hotels and Motels is well established. Sales of beef dishes were far greater for this market segment than for Cafes and Restaurants.
* Beef does not have any serious competition from other meats on Hotel and Motel menus.
* Beef is expected to be offered more as a main course than as an entrée.
* Beef is thought to be "heavy" rather than "light", i.e. provides a filling and satisfying meal.
* The image of beef is steak.
* The Hotels and Motels purchase more portion controlled beef than the Cafes and Restaurants and are more likely to accept new value-added products.
* Gaps identified in the menu by the consumers were:
    - in children's menus, there was a lack of beef dishes (other than burgers);
    - for entrées or light main courses, there were few light beef dishes.
* Chefs' needs identified were:
    - saving of chefs' time, in either preparation or cooking to enable fast lunch-time service;
    - to serve a very large number of meals efficiently in high volume catering, e.g. functions;
    - assistance when there is a shortage of skilled chefs/kitchen staff.
* Three groups of dishes emerged which were of common interest to chefs and consumers:
    - wet dishes, e.g. casseroles;
    - beef in pastry, e.g. beef pies, Beef Wellingtons;
    - variations on roast beef including stuffed beef.
* Steak and accompanying sauces also offer opportunities for innovation for, while steaks may not take long to cook compared to wet dishes like casseroles, they still present a time constraint on chefs with limited grill space and/or who need to provide a fast lunch-time meals service.

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[1] Metropolitan Melbourne is also known as Greater Melbourne.

APPENDIX 2 SALES OF BEEF ENTRÉES AND MAIN COURSES

APPENDIX 2A: IN HOTELS, MOTELS, CAFES AND RESTAURANTS

Market Segment	ENTRÉES				MAIN COURSES			
	NUMBER ON THE MENU		NUMBER SOLD PER WEEK		NUMBER ON THE MENU		NUMBER SOLD PER WEEK	
	TOTAL Mean (Range)	BEEF Mean (Range) (% of total)	TOTAL Mean (Range)	BEEF Mean (Range) (% of total)	TOTAL Mean (Range)	BEEF Av., (Range) (% of total)	TOTAL Mean (Range)	BEEF Mean (Range) (% of total)
Cafes/Restaurants								
Group CR1 * N=6	10 (0-28)	1 (0-3) **(10)**	180 (0-600)	25 (0-127) **(14)**	17 (11-28)	7 (2-14) **(41)**	289 (15-720)	91 (15-150) **(31)**
Group CR2 ** N=4	11 (0-21)	2 (0-5) **(18)**	NA	NA	22 (14-30)	6 (2-10) **(27)**	NA	NA
Hotels/Motels								
Group HM1 # N=7	7 (2-10)	2 (0-4) **(29)**	109 (10-300)	51 (0-240) **(47)**	16 (8-24)	7 (3-11) **(44)**	359 (80-1800)	180 (50-800) **(50)**
Group HM2 ## N=12	20 (0-26)	3 (0-12) **(15)**	482 (0-1650)	36 (0-170) **(8)**	48 (15-106)	15 (3-34) **(32)**	1501 (240-5010)	631 (85-2570) **(42)**

KEY
NA - data were not available
* Group CR1 Traditional Cafes and Restaurants offering Australian and International Dishes
** Group CR2 Family Restaurants
\# Group HM1 Hotels and Motels with only one foodservice outlet
\## Group HM2 Hotels and Motels with more than one foodservice outlet (data in this row are averages for all entrées and main courses totalled across all the menus within each operation)

APPENDIX 2 SALES OF BEEF ENTRÉES AND MAIN COURSES

APPENDIX 2B: IN DIFFERENT TYPES OF FOODSERVICE OUTLETS

Type of Outlet	ENTRÉES				MAIN COURSES			
	NUMBER ON THE MENU		NUMBER SOLD PER WEEK		NUMBER ON THE MENU		NUMBER SOLD PER WEEK	
	TOTAL Mean (Range)	BEEF Mean (Range) (% of total)	TOTAL Mean (Range)	BEEF Mean (Range) (% of total)	TOTAL Mean (Range)	BEEF Mean (Range) (% of total)	TOTAL Mean (Range)	BEEF Mean (Range) (% of total)
Bistros/Restaurants N=25	8 (0-26)	1 (0-4) **(13)**	178 (0-1000)	16 (0-80) **(9)**	20 (6-60)	6 (2-12) **(30)**	616 (30-4000)	239 (15-1500) **(39)**
Public Bars N=9	1 (0-3)	0 (0) **(0)**	2 (0-10)	0 (0) **(0)**	9 (5-20)	3 (1-8) **(33)**	84 (25-200)	49 (15-100) **(58)**
Functions N=11	7 (0-24)	2 (0-8) **(29)**	189 (0-600)	11 (0-50) **(6)**	12 (3-32)	5 (1-15) **(42)**	324 (15-1360)	162 (6-700) **(50)**
Room Service N=2	7 (6-7)	1 (0-1) **(14)**	175 (0-350)	0 (0) **(0)**	16 (6-25)	6 (2-10) **(38)**	225 (200-250)	90 (80-100) **(40)**
Staff Canteen N=2	1 (0-2)	0 (0) **(0)**	175 (100-200)	10 (0-20) **(6)**	3 (2-3)	1 (1) **(33)**	1075 (350-1800)	510 (220-800) **(47)**

APPENDIX 3

ANNUAL EXPENDITURE ON FOOD, MEAT AND BEEF IN COMMERCIAL FOODSERVICE ESTABLISHMENTS

Market Segment	Average Expenditure $			Percentage of Total Food spent on Meat	Percentage of Total Food spent on Beef	Percentage of Meat spent on Beef
	Total Food Average (Range)	Total Meat Average (Range)	Beef Average (Range)	Average (Range)	Average (Range)	Average (Range)
Cafes and Restaurants						
Group CR1	75,500 (10,000-156,000)	27,222 (500-80,000)	12,840 (475-26,400)	30 (5-80)	15 (5-26)	60 (33-95)
Group CR2	153,000 (50,000-384,000)	NA	16,558 (1,500-26,000)	NA	21 (2-52)	NA
Hotels and Motels						
Group HM1	42,914 (10,000-92,000)	24,919 (5,000-55,200)	16,457 (4,500-31,125)	57 (37-80)	38 (20-60)	67 (50-90)
Group HM2	296,250 (18,000-1,300,000)	106,011 (13,500-500,000)	45,791 (6,000-156,000)	41 (20-75)	22 (7-56)	55 (25-75)

KEY
NA - data were not available
Figures in parenthesis are the ranges of the data from which the averages were calculated

SECTION 1:

QUALITATIVE RESEARCH

FOR

PLANNING THE PROJECT

APPENDIX 4

INTERVIEWS WITH MANAGEMENT OF MEAT COMPANIES

QUESTIONS

1. What are the forms (e.g. cuts, portion control, processed, prepared) of beef which you are currently supplying to the foodservice industry?

2. What are the forms of beef which you sell in greatest quantities to the foodservice industry?

   What forms of beef do you think are most popular with the foodservice industry?

   What are the reasons for these preferences?

3. Do you find that different sectors of the foodservice industry have different requirements in their purchasing of beef? For example:

   Is there a difference between the hotels - the larger hotels/motels with several foodservice outlets and the smaller hotels/motels with only one foodservice outlet?

   Do you have many groups or chains purchasing their beef in bulk for all their outlets or does each outlet generally purchase its own requirements?

4. What would you say the changes have been to the forms in which you sell beef over the past ten years?

5. Do you think that there are any trends in the way in which your customers are wishing to purchase their beef?

6. What do you think the reasons are for these changes/trends?

7. Do you think that there is an adequate range of value-added beef products available?

8. Is there a demand for value-added beef products?

9. Would you add any other beef products to your list if they were available? What would they be?

10. Do you perceive that there are any constraints on the foodservice industry which influence their purchasing behaviour?

APPENDIX 5

IN-DEPTH INTERVIEWS WITH MENU PLANNING DECISION MAKERS

APPENDIX 5A: STRUCTURED QUESTIONNAIRE

For operations with more than one foodservice outlet a questionnaire with tables for multiple responses was used.

Questionnaire for Operations with One Foodservice Outlet

Answers to the questions below will help me to determine the use of beef by the hotel and restaurant segments of the foodservice industry and to identify opportunities for growth.

Please would you read the questions and place the answers in the spaces provided.
Your participation is very much appreciated.

Outlet Name/Type______________________________
Max. Seating Capacity______

Is the foodservice operation independent or part of a chain?
Please place a tick against the correct response.

Independent ______
Part of a Chain ______ **Name of the Chain**____________________

The Menu

Question 1

a) **How many entrée dishes do you have on your menu?** ______

b) **How many of these entrée dishes contain beef?** ______

c) **How many main course dishes do you have on your menu?** ______

d) **How many of these main course dishes contain beef?** ______

Question 2

a) **How many entrée dishes would you sell in a typical week?** ______

b) **How many of these would be entrée dishes containing beef?** ______

c) **How many main course dishes would you sell in a typical week?** ______

d) **How many of these would be main course dishes containing beef?** ______

Purchasing

Question 3

a) **What proportion of total food expenditure (as a percentage) would be spent on total meats?** ______

b) **What proportion of meat expenditure (as a percentage) would be spent on beef?** ______

c) **Within what range is your total annual food expenditure to the nearest $1000?** ______

Question 4

For this question the alternatives are provided in the table below.

a) **In what forms do you buy your beef?**
Please place a tick in the box on the right hand side of each of the alternatives you use.

b) **What percentage of beef do you purchase in these ways?**
Please place approximate percentage figures in the boxes you have ticked in answer to part a).

Form of beef purchased	**Proportion of Purchases as a Percentage of the total cost of beef purchased (%)**
Whole carcase, hindquarter, forequarter	
Cuts, loose or cryovac packed	
Portion control cuts in cryovac packs	
Prepared but not cooked, e.g. crumbed, filled, marinated	
Processed meats, e.g. cured, smoked, sausages, hamburgers.	
Prepared and pre-cooked	

Question 5

For this question the alternatives are provided in the table below.

a) **Where do you buy your beef?**
Please place a tick in the box on the right hand side of each of the alternatives you use.

b) **What percentage of beef do you purchase in these ways?**
Please place approximate percentage figures in the boxes you have ticked in answer to part a).

Source of Beef	**Proportion Purchased as a % of total cost of beef purchased**
Wholesaler	
Retail Butcher	
Markets e.g. Victoria Market	
Other Source. Please Specify_______________	

Thank you for your time and co-operation.

This research is sponsored by the Food Research Institute[2], Werribee, Victoria and the Australian Meat Research Corporation.

[2] The Food Research Institute became the Australian Food Industry Science Centre (Afisc) in 1995.

APPENDIX 5B: QUALITATIVE QUESTIONS

In-depth Interview - Interviewer's Instructions

Sample Note
Ensure that the person being interviewed is the one who makes the menu planning decisions. This person may make all the decisions relating to the purchase of beef but if not then ascertain who else is involved and interview that person also, e.g. the purchasing officer. The suggested format of the question is written in bold and the information required is outlined beneath.

The practical questions which need to be answered in this survey

1. **What do you think your customers are looking for when they make their selections from the menu?**
   Do you have any idea what they are looking for when they are choosing?
   This is to see what reasons people have for eating out and what role the food plays.

2. **How do you think your customers perceive beef on the menu?**
   What do you think your customers think about beef?
   How do they see beef?
   This is to see if beef has a particular image, and what that image might be.

3. **How do you think your customers preferences have changed over the past 5-10 years?**
   This is to determine if there are any trends in customer preferences.

4. **What changes to your menu do you think your customers would like to see, say, in five years time?**
   This is to see if there are any trends which the chef/foodservice operator may perceive to be continuing or just about to take off.

5. **When you determine your purchasing specifications what are the things which you consider?**
   What are the reasons for these considerations?
   What are the factors which influence purchasing decisions regarding beef and beef products?

   (This question should show up what the constraints are and to some extent tally with the constraints which also affect the menu planning decisions.)

6. **In what form do you purchase beef today?**
   How has this changed over the past ten years?
   How do you think you may purchase beef in the future?
   What are the trends in purchasing beef?
   (Here we need to ascertain in what form beef is being purchased today and how that has changed over the last ten years. Why it is purchased in that way and how it may be purchased in the future. The idea is to get some detail about the likelihood of future purchases of value-added beef products and what the likely requirements will be, e.g. form of the beef, degree of preparation, whether pre-cooked, packaging, batch/portion sizes/size of packs, product characteristics...)

7. **When you write your purchasing specifications for beef do you find that it is easier to make purchasing decisions now than it was ten years ago? What reasons do you have for your answer?**
   This should give some insights into the chef/foodservice operator's views about the range of beef products available today compared to 10 years ago.

8. **What do you consider when you sit down to write a menu?**
What are the factors which the menu planner considers when planning or revising a menu and how do these factors relate to the use of beef on the menu?
(Are there any problems which can be identified which might adversely affect the use of beef?)

9. **What role does beef play on your menu?**
What is the menu planner's attitude to beef?
(What is the image of beef in the eyes of the menu planner? What is the menu planners perception of the customer's image of beef? How do these views influence the attitude of the menu planner to beef?)

10. **What is the main feature on your menu?**
What relation does beef have to the main feature on your menu?
Does beef have a unique position on the menu or is there competition which might adversely affect the sales of beef?
(Try to elicit what this competition might be, e.g. chicken or seafood and why it is so competitive. Is it to do with the consumer preferences or more to do with practicalities within the operation, e.g. perceived convenience?)

11. **What types of beef dishes are most popular today?**
What were popular 5-10 years ago?
What will be the dishes which are likely to be popular in the next five years?
What are the trends in the use of beef on the menu?
(If it is possible to elicit reasons for these trends then that would be very useful as it may highlight some of the problems which beef might be having or is likely to have. It may also show up what the menu planner actually thinks the consumers want/will want.)

12. **What would your ideal beef product be like?**
This is to determine what the chef/foodservice operator considers to be the most important features of beef products which he/she would like to be available/purchase.

13. **Do you have any views about the ideal range of beef products which ought to be available and which would meet your needs?**
Do you think that the range of beef products currently available could be extended?
What does the menu planner think about the range of beef products available and how might it be improved? Is the respondent satisfied with the range of products currently available? What value-added products are being used already by the operation? Are more value-added products likely to be used in the future? What are the views of the chef/foodservice operator on prepared and pre-cooked products? Are there any products like these which the operation could use? Does the chef/foodservice operator have any suggestions?
(It would be useful to get the menu planner to talk about what his/her needs are and what he/she sees as the benefits of the form in which they purchase the beef or even what the benefits might be of the ideal form if it were available.)

APPENDIX 6

FOCUS GROUPS WITH MENU PLANNING DECISION MAKERS

MODERATOR'S INSTRUCTIONS AND QUESTION GUIDE

The questions will take the chefs through the sequence of their needs.

The practical questions which need to be discussed:

1. Purchasing Beef

1.1 What are your main criticisms of beef?

1.2 What would you say are the main problems which you have with it?

2. Beef on the Menu

2.1 What sort of things are you doing with beef?

- 2.1.1 What place does beef have on menus? Where do beef dishes appear? (breakfast, lunch, dinner, snacks, supper etc.)
- 2.1.2 Does it have different roles on different menus and in different courses?
- 2.1.3 What are these roles? Why are they different?
- 2.1.4 What are the characteristics which enable it to have these roles?

3. Changes in Beef Dishes - Preparation and Cooking

3.1 What can you do with beef to satisfy today's customers?

- 3.1.1 What are the main beef dishes which never change, that have been popular for the past ten years or so?
- 3.1.2 What cuts do they involve? What is involved in their preparation and cooking? Are they wet or dry dishes?
- 3.1.3 What are the most significant changes which have taken place in the preparation and cooking of beef dishes served today compared to say ten years ago?

3.2 What do you think is good about working with beef? What do you like about it?

4. Consumer Demands

4.1 Have customer's demands changed?

- 4.1.1 What are they looking for now?
- 4.1.2 Has the recession made any difference to what customer's want?

4.2 Have you made any changes to beef dishes as a result?

- 4.2.1 What are these changes?

4.3 Are customers ordering less beef now than they did say, five years ago, or is the pattern different?

- 4.3.1 Are you selling more chicken dishes?
- 4.3.2 Are you selling more fish/seafood dishes?
- 4.3.3 Will this trend continue?

4.4 Has beef lost ground?

- 4.4.1 If it has how can beef pick up it's lost ground?
- 4.4.2 Do you think it should? Do you want it to do that?
- 4.4.3 Is it worth it to improve your sales of beef dishes against chicken?
- 4.4.4 What are the advantages which chicken has over beef and vice versa?
- 4.4.5 What can be done?
- 4.4.6 Is it the cuts which need some change?
- 4.4.7 Is it the quality? Is beef less versatile than chicken?
- 4.4.8 What could be done to make it more versatile?

5. Requirements for Beef Products

5.1 Are there beef items which you would like to put on the menu but cannot for some reason?

5.1.1 If there are what are the reasons?

5.2 What other roles could beef have?

5.2.1 Where on the menu could beef be used successfully where it is not already being used?

5.2.2 Can new cuts or products be developed to make this possible?

5.3 Are there any significant developments in the foodservice industry which are putting constraints on your operation? For example, economic, labour skills, product availability, equipment, space etc.

APPENDIX 7

FOCUS GROUPS WITH CONSUMERS

APPENDIX 7A: RECRUITING LEAFLET AND SCREENING QUESTIONNAIRE

RECRUITING LEAFLET

'EATING OUT'

You are invited to come and talk about 'eating out' with a small group of other people who also eat out regularly. Each group will meet at the Footscray Campus of Victoria University of Technology in the evening from 7 p.m. to 9 p.m. on a date to be arranged within the next two weeks.

Your opinions are very important to the foodservice industry and your participation would be much appreciated.

A $30 meal voucher for the {name of hotel/motel/ restaurant} will be awarded to each customer who participates in any of these discussions.

If you are interested please complete the form provided and give it to the cashier before you leave the hotel. Please note that completion of this form does not mean automatic involvement as this depends on the availability of those expressing interest at the times planned for the groups and on how quickly the groups are filled. You will be contacted by telephone or letter nearer the time.

Many thanks for your interest.

Linda Roberts
Research Fellow

SCREENING QUESTIONNAIRE: APPLICATION FORM

Name	
Title:Ms/Mrs/Mr/Dr	
Address **Postcode**	______ ______ ______
Telephone Number	

Age Group	Please tick the appropriate box
< 20 years	
20 - 35 years	
36 - 49 years	
50 - 65 years	
> 65 years	

Ages of children (if applicable)	

How often do you eat out?	Please tick the appropriate box
> once a week	
about once a week	
at least once a month	
< once a month	

Do you eat meat? Yes/No	
Do you eat beef? Yes/No	

Many thanks for your interest.

APPENDIX 7B: MODERATOR'S INSTRUCTIONS AND QUESTION GUIDE

The practical questions which need to be discussed:

1. **How do you think most people decide upon which restaurant to go to when they choose to eat out?**
   What do you think is important to them?
   (This ought to bring out comments about the kinds of restaurants people like to go to regularly. They might also discuss the different types of restaurants chosen for particular reasons. A very wide range of things could emerge here. The importance of the food offered may be only one of many considerations. However, the importance of the food in the decision making should be brought out in the discussion.)

2. **What kinds of dishes do you think people expect to see on the menu?**
   How do you think people make their selections from the menu?
   What do they consider when they are selecting entrées?
   What do they consider when they are selecting main courses?
   What things are important?
   (This ought to start a discussion on the main factors contributing to a successful dish - not only the main ingredients but also the other aspects, the combinations of flavours, colours and textures, the relative importance of these, whether the dish is wet or dry, whether it is easy to eat, i.e. does not contain bones etc. whether it is considered to be healthy, whether the meat is perceived to be lean, is low in cholesterol, comments on portion sizes whether small or large are preferred (especially important with steaks). It may also bring out what the main preferred meats and seafoods are and perhaps there may be some discussion which sheds light on their images.

3. **What kinds of main courses do you think are chosen most often by people eating out?**
   Do you think that there is any particular reason why this should be so (whatever the popular item might be)?
   (This is very similar to the previous question and may shed some light on the position and image of beef in relation to other major ingredients, e.g. chicken, seafoods.)

4. **Do you think people use different criteria when they choose entrées and main courses?**
   Do they expect a different selection of ingredients in entrées as opposed to main course dishes? What might the differences in the range of ingredients be?
   (This may show up how beef rates in each course, whether it is versatile enough to be seen as a viable alternative in either course.)

5. **Do you think that people have different reasons for selecting, say, chicken as opposed to beef or seafood?**
   Why would a person choose one in preference to the other? Are there other factors involved besides the main ingredient? What are they?
   (Factors may include price, quality, speed of service etc. There may be comments about price ranges and perceived quality characteristics of particular meat and seafood dishes.)

6. **If you choose a red meat dish from the menu what do you expect of it? What should it be like? What qualities/characteristics should it have?**

7. **What sorts of beef dishes do you expect to be on the menu for you to choose from?**

8. **What do you think would be the best kinds of selections of entrées and main courses for different occasions, e.g. wedding feast, working lunch, dinner for the family, intimate dinner for two etc.**
(When these are discussed separately there ought to emerge a range of images of the different meats and seafoods and where beef stands in relation to the rest. The style of the dish may be important and may affect the image such that there may be a range of images for each meat or seafood according to the styles of dishes offered. Alternatively there may be a hierarchy of meats and seafoods in the minds of the consumers regardless of dish styles.)

9. **Do you think that there have been any changes in the last five to ten years in what is being offered by restaurants in the way of meat and seafood dishes? What have these changes been?**
(The consumers' views of trends may emerge here, also whether negative or positive.)

10. **What changes would you like to see on menus?**
(This should also show up any complaints they have about present menu selections and may indicate some trends in consumer preferences.)

11. **What would you describe as the ideal beef dish?**
(The consumers views of beef might emerge here - how they really see it - or they might simply describe their favourite beef dish.)

12. **What do you think a value-added beef product might be like?**
(Consumers' opinions of value-added products may emerge here, e.g. perceived quality of value-added products.)

13. **What kind of restaurant do you think might use such products?**
(Consumers' opinions of value-added products may emerge here. They may have definite opinions about the kinds of operations and place them in a particular market segment.)

14. **Do you think that most people would mind if the chef used value-added products in the dishes they were offered?**
(Consumers' opinions of value-added products may emerge here. If they find the idea acceptable then they may not object and vice-versa.)

SECTION 2:

PRODUCT DEVELOPMENT

PROCESS

APPENDIX 8

FOCUS GROUPS FOR PRODUCT IDEA SCREENING

APPENDIX 8A: MENU PLANNING DECISION MAKERS' FOCUS GROUP - MODERATOR'S INSTRUCTIONS AND QUESTION GUIDE

Aims

1. To obtain information from menu planning decision makers which will enable screening of product ideas.
2. To describe the expected products attributes.
3. To describe the expected benefits of the products to chefs.
4. To identify unique characteristics of the products.
5. To identify when the products could be used by chefs.

Instructions

Explain how the list of ideas were generated.
Explain what the constraints are under which chefs in Melbourne are working.
Explain the categories into which the ideas have been sorted.
Discuss the categories in a general way first.
Take each category in turn and ask the following questions.

1. What is the relative importance of each of the constraints under which the chefs are working?
2. What is the relative importance of each of the gaps identified on the menu in relation to the use of beef?
3. Which of the categories are the most important for helping to:
   i) relieve these constraints;
   ii) fill the gaps?
4. Consider the ideas in each category in turn for their ability to relieve the constraints or fill the gaps.
5. As the ideas are assessed, for those which are selected as useful address the following screening criteria to each one:
   a) What do the consumers want?
      The product must be lean, tender and with minimal or no fat.
      If the product has other ingredients in it the proportion of beef should be substantial, e.g. in a casserole.
   b) What are the benefits of the product?
      Does the product meet the need for skilled work to be done already which apprentices would otherwise do?
      Does the product meet the need to reduce lengthy preparation time?
      Does the product reduce the time required for cooking/service?
      Does the product offer meaningful consumer benefits? Will the benefits as we see them be meaningful to chefs?
   c) Is the new product sufficiently different to other products which the chefs might purchase to fulfil their needs?
      Will the product allow chefs opportunities to use the product in their own way? Is the product likely to be acceptable already because it is a variation on products already known/used by chefs? Is the product one which needs to be designed to give the chef some leeway to make it his/her own?
   d) What advantages does the product have over competitors?
   e) Will the product be perceived to give value for money?
      What price would you expect to pay for the product?
6. Do you have any other ideas of products you would like to see available?
7. What do you think of these ideas (introduce the ideas which were previously screened out)?

APPENDIX 8B: CONSUMER FOCUS GROUP - MODERATOR'S INSTRUCTIONS AND QUESTION GUIDE

Aims

1. To obtain information from consumers which will enable screening of product ideas.
2. To describe the expected products attributes.
3. To describe the expected benefits of the products to chefs.
4. To identify unique characteristics of the products.
5. To identify when the products could be used by the chefs.

Instructions

Explain how the list of ideas were generated.
Explain the categories into which the ideas have been sorted.
Discuss the categories in a general way first.
Take each category in turn and ask the following questions.

For each product:

1. What would you expect the product to be like?
2. What benefits do you think the product might have?
   Is the idea attractive? For what reasons?
3. What do you think chefs might do with the product?
4. What would **you like** chefs to do with the product?
5. Do you have any ideas for variations on the product or any more detail to describe it better?
6. What would you expect to pay for such a product?

After the discussion of the listed product ideas:

7. Do you have any other ideas of products which you would like to see offered?
8. What do you think of these ideas (introduce the ideas previously screened out to check whether they are worth re-introducing)?

APPENDIX 9

CHECKLIST SCREENING

APPENDIX 9A: NEW BEEF PRODUCT IDEAS

Key to table
For the purposes of the tabulation of products and factors for scoring an abbreviated product description is provided, highlighted in parenthesis after each description.

<u>Products Prepared but not Cooked (12)</u>

1. **Raw beef cuts - ways of cutting (2)**
   - i) Beef sliced very thinly (like smoked salmon) or in 'julienne' pieces for 'light' beef dishes especially entrées. **(Thin beef slices)**
   - ii) More use of the 'round - the baron of beef' and the forequarter with new cuts to create rolled roasts and more cuts at different prices. This could possibly involve the production of a cut of beef to produce noisettes, with a stuffing of fruit, like kiwi fruit, which also acts as a tenderiser. **(Roasts/noisettes)**

2. **Raw beef cuts with marinades (4)**
   - i) Marinated beef strips/pieces for stir fry and variations on stir fry with savoury flavours, e.g. Mexican. **(Stir fry beef in marinades)**
   - ii) Marinated beef chunks/nuggets, either loose or on skewers, which can be deep fried or barbecued. **(Beef chunks in marinades)**
   - iii) Beef marinated in alcoholic beverages, e.g. beer, wine marinades; liqueur flavoured beef, e.g. rum beef, benedictine beef. **(Beef in alcohol marinade)**
   - iv) Pickled beef plus other flavours including barbecue, cheese, pate, oysters. **(Flavoured pickled beef)**

3. **Raw beef with stuffings (3)**
   - i) Cuts of beef (e.g. schnitzel-style, beef olive-style), with stuffings including ingredients like cheese. **(Stuffed beef portions)**
   - ii) Stuffed beef, using 'boned out' beef cuts. **(Stuffed beef roasts)**
   - iii) Beef olives. **(Beef olives)**

4. **Raw beef with coatings (1)**
   - i) Beef chunks/nuggets with different coatings, e.g. batter, crumbs. **(Coated beef)**

5. **Processed beef (2)**
   - i) Processed products made from forequarter meat to make shaped products (e.g. savoury beef patties, beef nuggets, meatballs) to be offered with a sauce or in a bread roll as a competitor with the burger or the BLT (Bacon Lettuce Tomato). The beef could be combined with another red meat (e.g. lamb) in some of the products like the nugget. **(Processed beef products)**
   - ii) Beef combinations meat platter, a mixture of a variety of beef products suitable for a complete meal, e.g. a consommé, beef nuggets, served with fruit. **(Beef combinations platter)**

Prepared and Cooked (20)

6. Beef cuts ready cooked (3)

i) Delicate beef cuts either thin circular slices or 'julienne' pieces, cooked and rare. **(Pre-cooked thin sliced beef)**

ii) Variations on rare, medium rare.... for pre-cooked steaks to guarantee degree of doneness. **(Pre-cooked steaks)**

iii) Roasts and stuffed beef as outlined in categories 1 & 2 (e.g. roast sirloin to be served hot, stuffed roast beef, beef olives). **(Pre-cooked stuffed beef)**

7. Sauces for beef dishes (3)

i) Sauces with more beef flavour to replace gravies. **('Beefy' Sauces)**

ii) Sauces to go with kebabs, satays and beef nuggets. This could include sweeter sauces for children (e.g. sweet and sour sauce). **(Sauces for beef chunks)**

iii) Sauces to which extra vegetables can be added to go with stir fry products. **(Par-finished sauces)**

8. Casserole-style beef dishes (1)

i) Stroganoff with mushrooms and cream. **(Beef stroganoff)**

9. Pies and pastry products (3)

i) Varied fillings for beef pies. **(Pie fillings)**

ii) Pastry jellied pie, e.g. pork pie style. **(Jellied pie)**

iii) Beef in pastry as finger food (e.g. bite sized with filo pastry, sausage roll style of product and mini vol-au-vents). **(Pastry finger food)**

10. Processed/pickled/cooked beef for salads (4)

i) Pastrami-style product for cold salads, e.g. Malaysian salad. **(Pastrami products)**

ii) Beef salami, beef sausages with different flavours and 'nutritional' characteristics (low salt, high fibre ...) for slicing, with different shapes. **(Salami products)**

iii) Strips of beef in thin finger pieces to dip into sauces and dips; variations on this theme including smoked beef in thin strips for shaping, e.g. rolling, twisting, could be served with horseradish. **(Pre-cooked thin beef slices)**

iv) 'Beef bits', like bacon bits, for salads. **('Beef bits' for salads)**

11. Processed beef products cooked/ready to re-heat (6)

i) Savoury beef patties, varieties, e.g. with garlic, herbs, spices, low fat versions of beef patties. **(Pre-cooked patties)**

ii) Beef 'pocket' fillings for pitta bread, tacos, crepes, omelettes. **(Beef 'pocket' fillings)**

iii) Extruded products (e.g. co-extruded beef sausage with cheese, tomato sauce) beef hot dogs plus sauces to serve with them. **(Extruded products)**

iv) Beef flavoured 'chip' products, either dry, brittle products or french fry style. **(Beef 'chips')**

v) Nachos. **(Nachos)**

vi) Meat loaves. **(Meat Loaves)**

APPENDIX 9B: CHECKLIST FACTORS

Table to show the factors selected for sequential screening and their respective weightings.

Factors for Screening		Scale Score 10 - 0	Weighting
A	Suitability of the Product to be made from beef.	Suitable - Not Suitable	10
B	Utilisation of beef (proportion used in the product).	High - Low	10
C	Likely demand for the product (interest in the product by consumers).	High - Low	10
D	Likely demand for the product (interest in the product by chefs).	High - Low	10
E	Existing competition (reflects uniqueness/innovativeness of the product).	Weak - Strong	5
F	Technical feasibility, ease of processing and packaging.	Very Feasible - Not Feasible	10
G	Likely cost of processing the product.	Low Cost - High Cost	7
H	Cost of raw materials, especially of the beef cuts.	Low Cost - High Cost	10

APPENDIX 9C: SCORING SHEET

Beef Product Idea		Factors Score out of 10							
		A	B	C	D	E	F	G	H
1. i)	Thin beef slices								
1. ii)	Roasts/noisettes								
2. i)	Stir fry beef in marinades								
2. ii)	Beef chunks in marinades								
2. iii)	Beef in alcohol marinade								
2. iv)	Flavoured pickled beef								
3. i)	Stuffed beef portions								
3. ii)	Stuffed beef roasts								
3. iii)	Beef olives								
4. i)	Coated beef								
5. i)	Processed beef products								
5. ii)	Beef combinations platter								
6. i)	Pre-cooked thin sliced beef								
6. ii)	Pre-cooked steaks								
6. iii)	Pre-cooked stuffed beef								
7. i)	'Beefy' Sauces								
7. ii)	Sauces for beef chunks								
7. iii)	Par-finished sauces								
8. i)	Beef stroganoff								
9. i)	Pie fillings								
9. ii)	Jellied pie								
9. iii)	Pastry finger food								
10. i)	Pastrami products								
10. ii)	Salami products								
10.iii)	'Beef bits' for salads								
11. i)	Pre-cooked patties								
11. ii)	Beef 'pocket' fillings								
11.iii)	Extruded products								
11.iv)	Beef 'chips'								
11. v)	Nachos								
11.vi)	Meat loaves								

APPENDIX 10

COMPANY SCREENING

The two companies were:

Company A
Company A is a Melbourne-based corporation which has been trading since 1981. It supplies a wide range of meat and meat products to the foodservice industry and has in its client base major hotel chains, international and domestic airlines, supermarket chains, catering services and island resorts. Its new export and processing premises were opened in 1992.

Company B
Company B is also Melbourne-based and has been trading since 1984. It produces a variety of meat products ranging from portion-controlled meat cuts to processed products, which are individually quick frozen. These products are marketed to foodservice, airline catering, supermarkets for the meatcase and freezer departments, and export markets. This company has an active product development activity aimed at the foodservice market.

APPENDIX 10A: BRIEF FOR MEETINGS WITH COMPANY MANAGEMENT

Aim of the Research
The development of a value-added beef product for Hotels, Motels, Cafes and Restaurants.

Sponsorship:
Australian Meat Research Corporation. Awarded a Junior Research Fellowship for a 3 year period which began in August 1992 and which will enable me to undertake a Ph.D. I am enrolled at Massey University in New Zealand and am undertaking the Ph.D. through the Food Technology Department there. My supervisors there are the Head of Department, Professor Ray Winger, and Professor Mary Earle. My supervisor in Melbourne is Dr. Raymond Mawson of the Food Research Institute where I shall undertake any necessary practical work, hence the business card.

Leave from Victoria University of Technology, Department of Hospitality and Tourism Management, where I am an Associate Professor.

My specialism is food and beverage studies and I have a scientific background (Food Science and Chemistry) although I have spent the past 18 years in the Hospitality field in Faculties of Business in Higher Education both here and in the U.K.

Exploratory Research:
This was carried out earlier this year in the Melbourne Metropolitan Area. The aim was to evaluate the utilisation of beef in Hotels, Motels, Cafes and Restaurants and to identify possible areas for product development.

I approached a random sample of operations from my database of Hotels, Motels, Cafes and Restaurants and carried out in-depth interviews of the principal menu planning decision maker in each operation (in most cases this was the chef). I also conducted focus groups for chefs and for consumers (separately).

The research gave me a feel for the situation under which chefs are currently working and some insights into the areas where product development might be worthwhile. The second stage of the market research will be to take a much larger sample of the operations in the database and to find out more exactly what they want.

Product Development:
I have already carried out brainstorming sessions for idea generation and the 74 ideas which emerged have been reduced by screening to 14. I now have to reduce these 14 down to 5 or 6 ideas which I can present to the menu planning decision makers for evaluation and to obtain further information to assist in writing of the design specifications.

Reason for this meeting
While the exploratory research gave some indication of the kinds of products which might be worthwhile developing I now have to obtain more exact information. As it is no use trying to pursue a product which is not technically feasible or which would take more than the time allocated for Ph.D. study I have to enlist the assistance of a specialist meat company which would be interested in being involved in the product development and prototype production of the product which emerges from the next stage of the market research.

The product descriptions which have resulted from the screening are provided and they have been kept deliberately brief in order to allow for more input from the menu planning decision makers. However, as your company is actively involved in providing and developing products for the foodservice industry I decided to approach you first on the question of the raw product ideas.

Could we look at these in the following way?

1. Score the product ideas (from the descriptions) out of 10 using the scale provided for each of 4 factors (A-D) and predict likely demand:
   - A technical feasibility of processing and packaging - amount of product development needed;
   - B technical feasibility of processing and packaging - amount of capital expenditure needed;
   - C likely cost of producing (processing and raw materials) the product;
   - D proportion of beef likely to be used;
   - E the market segment most likely to demand this product;
   - F level of demand from the market segment named in E;
   - G likely demand from the hotels/motels/cafes/restaurants market segment.

2. Rank the products in terms of which ones would be most likely to be successful, in order of preference. This may not be easy for more than about 5 or 6 but could it be done as far as possible?

3. Discuss the products in relation to the factors and their scores. That is, the reasons for the scores, why some products score well and others do not.

4. Discuss whether the company would be interested in becoming involved in the product development and prototype production and, if so, to what extent that involvement is likely to be.

Additional Questions to discuss will be:

5. Have you or any other company you know of produced any of these products? Were they successful or did they fail? What were the reasons for the success/failure? If they were not marketed at what stage in the product development were they dropped?

6. Are there likely to be any raw material problems with any of these products?

7. Are there likely to be any distribution problems with any of these products?

Specific Questions for Company A

8. Would you choose to chill or freeze the thin beef slices?
9. Would you sell the pickled beef chilled ready to cook or would you prefer to cook it?

APPENDIX 10B: RAW BEEF PRODUCT DESCRIPTIONS

1. **Tender Beef in Thin Slices**
   This is a raw beef product which will be uniformly and thinly sliced to enable the chef to prepare delicate beef dishes. It will be suitable for the creation of tender, light beef dishes which could be offered either as entrées or as lighter main courses like the Japanese dishes sukiyaki and shabu-shabu, notably as alternatives to steaks and other more substantial beef dishes. The slices will be very thin, tender and without visible fat. They will be attractively lean in appearance and will require little or no cooking.
   The product will be marketed to the hotels/motels market segment but will also be attractive to restaurants and cafes. The slices will be packed so that they will be protected from damage and will be easy to separate without tearing. The weight of beef per pack will be 500 g to avoid wastage.
2. **Roasts/Noisettes**
   New cuts will be fashioned to provide roasts with a desirable oval shape and which can be cut into noisettes without falling apart.
   The product will be marketed to the hotels/motels market segment but will also be attractive to restaurants and cafes. The product will be cryovac packed.

Treated Beef Products
This group includes a range of ideas for treatments which will introduce new flavours to beef cuts already available and different textural/dimensional characteristics to processed beef products.

3. **Beef in Marinades**
   The marinades will have a range of flavour combinations, and will be designed to mix and match with a range of raw beef cuts. Flavours may include garlic, chilli and peanut combined with spices like cumin, coriander, cardamom and ginger. Alcohol marinades may include a range of liqueurs/spirits as well as wine. Combinations for beef dishes will be suggested. Raw beef cuts could include:
   i) beef in thin strips for stir fry;
   ii) beef in chunks for example for kebabs;
   ii) beef in the form of steaks or large pieces, especially for alcohol based marinades.
   The product will be ready to cook without further preparation and will be marketed to the hotels/motels and cafes/restaurants market segments.
4. **Flavoured Pickled Beef**
   This is the traditional pickled beef but with new spicy flavour combinations. It will be lean in appearance and have minimal visible fat.
   The product will be marketed to the hotels/motels market segment but will also be attractive to restaurants and cafes. It will be sold in a product weight enabling chefs to purchase several different flavoured products which can be used together to offer a variety of taste sensations.
   The product will be marketed to the hotels/motels and cafes/restaurants market segments. It will be sold chilled.
5. **Burger Competitor**
   This product will be made from processed beef. It will have unique features which distinguish it from the burger both in shape and flavour. For example, it may have the oval shape characteristic of the fricadelle and a flavour which has a hint of a chosen herb like dill or basil. The product will be tender and will not contain excess fat. It will be suitable for serving in a 'pocket' of bread or similar cereal based product to enable it to be eaten by hand. It will take no longer to cook than the burger and so will be suitable for fast lunch-time service.
   The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes. It will be sold frozen and packaged in cartons.

6. **Coated Beef Product**

This will be a product which will consist of either a cut of beef or processed/reformed beef, with or without other ingredients, coated in a batter or crumbed mixture. An example of such a product would be a nugget of reformed beef coated with a batter.

This product will be marketed to the hotels/motels and cafes/restaurants market segments. It will be sold as a frozen product in portion controlled sizes/quantities and packaged in cartons.

APPENDIX 10C: PREPARED BEEF PRODUCT DESCRIPTIONS

Pre-cooked 'untreated' beef cuts

This group includes familiar beef products in a pre-cooked state ready to 'finish' by reheating or to serve chilled.

7. **Pre-cooked Thin Sliced Beef**

   This product will be pre-cooked and be uniformly and thinly sliced to enable the chef to prepare delicate 'cold' beef dishes. The slices will be of an oval shape and relatively small in size (no greater than 5 cm x 10 cm) in order to provide slices which do not fall apart easily and which enable a high standard of presentation to be achieved. The beef will be lean in appearance without visible fat, being very suitable for salads and buffets.

   This product will be marketed to hotels/motels and cafes/restaurants. The slices will be packed so that they will be protected from damage and will be easy to separate.

8. **Pre-cooked Steaks**

   This product will be seared/surface cooked so that it has an attractive appearance. It will be cooked so that on reheating three grades of steak; rare, medium and well done will be available.

   This product will be marketed to hotels/motels and cafes/restaurants. The product will be packaged under vacuum, rapidly chilled and sold as a chilled product suitable for reheating using a sous vide water bath.

Pre-cooked 'Treated' Beef Products

This group includes cooked processed products ready to serve, either chilled or reheated, and 'wet' beef products (beef in a sauce) ready to be incorporated by the chef into a new dish or simply to be reheated for immediate service.

9. **Pre-cooked Beef Patty**

   This product will be pre-cooked ready to be reheated for service. It will enable the chef to save time when large numbers of patties (beefburgers) need to be served quickly, especially for lunch-time service.

   This product will be marketed to the hotels/motels and cafes/restaurants market segments. It will be packed under vacuum, rapidly chilled and sold as a chilled or frozen product.

10. **Pre-cooked Meat Loaf**

    This product will be a finished product ready to serve chilled or to be reheated for service. It will be produced with a cross sectional shape resembling that of the classical terrine and will consist of the beef mixture layered with contrasting coloured vegetables like spinach or watercress to allow attractive presentation.

    This product will be marketed to the hotels/motels and cafes/restaurants market segments. It will be packed under vacuum, either whole or sliced, rapidly chilled and sold as a chilled product.

11. **Casserole of Beef e.g. Beef Stroganoff**

    This product will be a 'wet' beef dish containing a substantial proportion of beef together with other fruit and/or vegetable ingredients, for example, olives and dried apricots, added to provide variety in flavour and texture. It will be suitable for fast lunch-time service and also for functions where large numbers of people are being catered for. It will be pre-cooked ready to be reheated for service.

    The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes. It will be sold in 5 kg packs either frozen, refrigerated or in aseptic shelf-stable packs.

Pre-cooked 'Treated' Beef Products continued

12. Beef Pie Filling

A pie filling, rather than a complete pie, will provide flexibility for distinctive pies to be prepared with the chef's own style of casing or pie topping. The filling will comprise of beef in a sauce base with a minimum quantity of vegetables added for flavour and allowing for the addition of further vegetables, for example, mushrooms, by the chef to create a variety of pies. It will be pre-cooked ready to be reheated for service.

The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes. It will be sold in 5 kg packs either frozen, refrigerated or in aseptic shelf-stable packs.

13. Beef 'Pocket' Filling

This product will provide the chef with flexibility to use his/her own choice of 'pocket' for the filling. The filling will be based on either lean beef mince or thin beef strips presented in a salsa or bolognaise style of sauce and suitable for serving in a tortilla, taco, cannelloni type of 'hollow' cereal product. It will be pre-cooked ready to be reheated for service.

The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes. It will be sold in 5 kg packs either frozen, refrigerated or in aseptic shelf-stable packs.

14. Cooked 'Beef Bits' for Salads

This will be available in small pieces for sprinkling on salads or in larger pieces for rolling and twisting to serve in attractive and interesting combinations with dips.

The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes. It will be sold chilled and vacuum packaged in 500 g packs.

APPENDIX 10D: FACTORS FOR SCORING BEEF PRODUCT IDEAS

Factors for Scoring		Scale Score 10 - 0
A	Technical feasibility of processing and packaging - amount of development needed	Could make today - increasing amounts of development needed - impossible to make 10 0
B	Technical feasibility of processing and packaging - amount of capital expenditure needed	Could make today - increasing amounts of capital expenditure needed - impossible to produce 10 0
C	Likely cost of producing (processing and raw materials) the product	Low Cost - High Cost 10 0
D	Proportion of beef likely to be used	High - Low 10 0
E	From which market segment would you expect there to be demand for this product?	Name of the market segment
F	Is the demand likely to be high or low from the market segment named in E?	High Demand - Low Demand 10 0
G	Likely demand from the hotels/motels/cafés/restaurants for the product	High Demand - Low Demand 10 0

APPENDIX 10D continued

FACTOR SCORESHEET

EXAMPLE: SCORESHEET FOR COMPANY B

Beef Product Idea	Factors Score out of 10							
	A Amount of development needed	B Amount of capital investment needed	C Likely Cost	D Proportion of Beef Used	E Market Segment from which likely demand would come	F Likely Demand from the market segment E	D Likely Demand from Hotels/Motels/Cafes/Restaurants	Total
1. Beef in marinades								
i) Stir fry beef in marinades								
ii) Beef chunks in marinades								
iii) Beef in alcohol marinade								
2. Burger competitor								
3. Coated beef product								
4. Pre-cooked thin sliced beef								
5. Pre-cooked steaks								
6. Pre-cooked beef patty								
7. Pre-cooked meat loaf								
8. Casserole of beef								
9. Beef pie filling								
10 Beef 'pocket' fillings								
11. Cooked 'beef bits' for salads								

APPENDIX 11

PRODUCT DESIGN

APPENDIX 11A: CONSUMER FOCUS GROUP - MODERATOR'S INSTRUCTION GUIDE

1. Background to the Development of the Fricadelle

The Fricadelle is being developed for the Hotels/Motels market segment in Melbourne. It is a burger style product, an alternative to the regular beef burger with both a beef and bacon flavour.

2. Product Concept: Fricadelle - the alternative burger

This product is the interesting alternative to the Big Burger. It has unique features which distinguish it from the usual beefburger, both in shape and flavour.
Shape: it is long and oval fitting snugly into a long bread roll.
Flavour: beef and bacon with a delicate blend of herb and lemon.
Texture: it is tender and soft.
It will take no longer to cook than the burger and so will be suitable for fast lunch-time service.
It will be individually quick frozen (IQF) for easy separation and sold frozen, packaged in cartons.
The flavour combination suggested is:
Danish - with bacon, lemon and dill or parsley.
Portion Size: 85 g
Packaging: 40 per carton
Price: $24.10 per carton
The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes especially for fast lunch service.

3. Consumers

From the product concept evaluations the consumers were predicted to be:
* people who eat burgers in hotels and local pubs;
* mostly in the 20-34 years age range;
* mostly a mixture of males and females;
* from a broad range of groups including regular customers, business people and families;
* twice as likely to be buying lunch than dinner.

4. Preparation for the Discussion

Ask the participants to describe each of the following sensations for each of the three samples provided.

Colour
1. Internal colour of the product.

Flavour Characteristics
1. Aroma before biting.
2. Aroma on the first bite.
3. First burst of flavour.
4. Flavour after 2 or 3 chews.
5. Flavour on swallowing.
6. Aftertaste/mouthfeel.

Textural Characteristics
1. On first bite: hardness/softness.
2. First 2 - 3 chews: cohesiveness.
3. Characteristics of solids in the mouth.
4. Characteristics of residue in the mouth.
5. Swallowing characteristics.

APPENDIX 11B: FIRST SENSORY PANEL - INSTRUCTIONS

1. You will be provided with 5 samples of burgers to assess. Each will be uniquely numbered. Begin tasting from the left sample and taste, in the order given, from left to right.

2. Take a sip of water before you start tasting and between tasting the samples.

3. **Internal Colour of the Sample**
   Please look at the internal colour of the sample before tasting. Write the identification number of the sample in the box for the colour nearest to the internal colour of the sample. The 'ideals' for internal colour has already been marked for you. The boxes have been enlarged to allow more than one identification number to be inserted, if required.

4. **Texture, Flavour and Pleasantness**
   Please assess the texture after the first bite and during the first 2-3 chews of the product. You may assess the strength of the bacon flavour as an 'overall' response. Place a vertical mark through the line to indicate the position of the sample and write the identification number of the sample above the mark. Indicate the position of your 'ideal' in the same way. Please note that the 'ideal' for pleasantness has already been marked for you.

For example:

5. Comments

Please make any comments, which you have about each of the samples, in the table provided. Do not forget to write the identification numbers of the samples in the left hand column. You may also comment on your 'ideal' if you wish.

Your comments about the flavour of the products are especially requested. How does the flavour change from:

i) detection of aroma initially;
ii) the first flavour sensation in the mouth;
iii) flavour after chewing at least 2-3 times;
iv) aftertaste?

APPENDIX 11C: FIRST SENSORY PANEL - QUESTIONNAIRE

Date: ______________________________
Time: ______________________________
Panel Number: ________________________
Judge Number: ____________ Name: ________________________
Sample Sequence: ______________________________________

____

****

Fricadelle - the Alternative Burger with a bacon flavour

You will be provided with 5 samples of burgers to assess. Each will be uniquely numbered. Begin tasting from the left sample and taste, in the order given, from left to right.

In addition to scoring each sample please clearly mark on your score sheet your **'ideal'** value for the burger product you are tasting. Note: there is one 'ideal' for each attribute.

The 'ideals' for internal colour and pleasantness have already been marked for you.

Internal Colour of the Sample

Dark Red	Red	Pink	Grey	Brown	Dark Brown
				IDEAL	

Please do not forget to indicate the position of your 'ideal' for each of the following product attributes.

Texture

Not Rubbery ———————————————— Very Rubbery

Not Crumbly ———————————————— Very Crumbly

Dry ———————————————— Very Moist

Flavour

No Bacon — Very Strong Bacon

IDEAL

Very Unpleasant Flavour — Very Pleasant Flavour

Comments
Please would you write any comments you have about each of the samples in the table below.

Please write the identification number of the sample in the first column and your comments in the second column.

Sample Number	Comments

Thank you for your assistance, it is much appreciated.

APPENDIX 11D: SECOND SENSORY PANEL - PANELLISTS' SCREENING

We are organising a sensory panel for a new burger style product.
Would you be prepared to participate if you fit into the targeted consumer group?

Times of Panels

Day: Thursday 4th August 1994

Times: 1. 9:30am 2. 10:00am 3. 11:00am 4. 12:00pm

Venue: Food Product Development Laboratory, Ground Level, Riddett Building.

Duration: Approximately 30 minutes.

Screening Questions
Terminate the screening if answer is no to any of questions 1-5

1. Do you eat a Western diet regularly? If yes go to 2.
2. Have you always had a Western diet? If yes go to 3.
3. Do you eat beef? If yes go to 4.
4. Do you eat bacon? If yes go to 5.
5. Are you in 20-34 years age group? If yes go to 6.
6. Do you eat burgers regularly/sometimes/infrequently?

Terminate the screening if answer is yes to questions 7 or 8

7. Is there any reason why you may not be able to taste the product, e.g. you have a cold, an allergy, mouth ulcers, dentures/plate? If no go to 7.
8. Have you tasted this product before? If no go to 8.
9. Which panel can you attend?

Note

Name: ______________________ Male/Female: __________

Panel No: ______________

Contact Telephone No: ____________

APPENDIX 11E: SECOND SENSORY PANEL - QUESTIONNAIRE

Notes for Sensory Panellists

1. Please do not eat any food, chew gum or drink anything for at least 30 minutes before the tasting session.
2. Please do not smoke for at least 30 minutes before the tasting session.
3. Please tell the organiser of the taste panel if you have a cold or any allergy which would prevent you distinguishing flavours.
4. Please do not wear cosmetics with strong aromas when attending the taste panel.

Date of panel: ______________
Time: ______________

Location: Food Product Development Laboratory
Department of Food Technology, Riddett Building.

Instructions

1. You will be provided with 6 samples of burgers to assess. Each will be uniquely numbered. Begin tasting from the left sample and taste, in the order given, from left to right.
2. Take a sip of water and eat one half of a cracker biscuit before you start tasting and between tasting the samples.
3. **Internal Colour of the Sample**
   Please look at the internal colour of the sample before tasting. Write the identification number of the sample in the box for the colour nearest to the internal colour of the sample. The 'ideal' for internal colour has already been marked for you. The boxes have been enlarged to allow more than one identification number to be inserted, if required.
4. **Texture and Flavour**
   Please circle the score for each attribute of each sample. In addition please circle the score for your ideal for each attribute.

For example for moistness:

Ideal	Dry	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Moist
Sample 621	Dry	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Moist

5. **Comments**

Please make any comments, which you have about each of the samples, in the table provided. Do not forget to write the identification numbers of the samples in the left hand column. You may also comment on your 'ideal' if you wish.

Sensory Questionnaire

Date: ____________________
Time: ____________________
Panel Number: ____________________
Judge Number: __________ Name: ____________________
Sample Sequence: ____________________
____

Fricadelle - the Alternative Burger with a bacon flavour

You will be provided with 6 samples of burgers to assess. Each will be uniquely numbered. Begin tasting from the left sample and taste, in the order given, from left to right.
In addition to scoring each sample please clearly mark on your score sheet your **'ideal'** value for the burger product you are tasting. Note: there is one 'ideal' for each attribute.
The 'ideal' for internal colour has already been marked for you.

Overall Evaluation
Please write the sample numbers at the top of the columns and place a tick in the box adjacent to your opinion for each sample.

Sample No						
Like extremely						
Like very much						
Like moderately						
Like slightly						
Neither like nor dislike						
Dislike slightly						
Dislike moderately						
Dislike very much						
Dislike extremely						

Internal Colour of the Sample

Dark Red	Red	Pink	Grey	Brown	Dark Brown
				IDEAL	

Texture

Please circle the score for the ideal and the score for each sample in turn writing the 3 digit number of the sample each time in the left hand column.

Sample No	Rubberiness		
Ideal	Not Rubbery	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Rubbery
	Not Rubbery	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Rubbery
	Not Rubbery	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Rubbery
	Not Rubbery	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Rubbery
	Not Rubbery	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Rubbery
	Not Rubbery	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Rubbery
	Not Rubbery	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Rubbery

Sample No	Crumbliness		
Ideal	Not Crumbly	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Crumbly
	Not Crumbly	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Crumbly
	Not Crumbly	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Crumbly
	Not Crumbly	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Crumbly
	Not Crumbly	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Crumbly
	Not Crumbly	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Crumbly
	Not Crumbly	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Crumbly

Sample No	Moistness		
Ideal	Not Dry	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Moist
	Not Dry	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Moist
	Not Dry	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Moist
	Not Dry	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Moist
	Not Dry	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Moist
	Not Dry	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Moist
	Not Dry	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Moist

Flavour

Please circle the score for the ideal and the score for each sample in turn writing the 3 digit number of the sample each time in the left hand column.

Sample No	Bacon Flavour		
Ideal	No Bacon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Bacon
	No Bacon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Bacon
	No Bacon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Bacon
	No Bacon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Bacon
	No Bacon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Bacon
	No Bacon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Bacon
	No Bacon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Bacon

Sample No	Herb Flavour		
Ideal	No Herb	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Herb
	No Herb	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Herb
	No Herb	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Herb
	No Herb	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Herb
	No Herb	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Herb
	No Herb	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Herb
	No Herb	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Herb

Sample No	Lemon Flavour		
Ideal	No Lemon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Lemon
	No Lemon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Lemon
	No Lemon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Lemon
	No Lemon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Lemon
	No Lemon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Lemon
	No Lemon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Lemon
	No Lemon	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Lemon

Sample No	Saltiness															
Ideal	Not Salty	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Salty
	Not Salty	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Salty
	Not Salty	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Salty
	Not Salty	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Salty
	Not Salty	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Salty
	Not Salty	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Salty
	Not Salty	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Salty

Sample No	Spiciness																
Ideal	Not Spicy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Spicy
	Not Spicy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Spicy
	Not Spicy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Spicy
	Not Spicy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Spicy
	Not Spicy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Spicy
	Not Spicy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Spicy
	Not Spicy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Spicy

Sample No	Beefiness																
Ideal	Not Beefy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Beefy
	Not Beefy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Beefy
	Not Beefy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Beefy
	Not Beefy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Beefy
	Not Beefy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Beefy
	Not Beefy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Beefy
	Not Beefy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Very Beefy

Sample No	Onion Flavour		
Ideal	No Onion	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Onion
	No Onion	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Onion
	No Onion	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Onion
	No Onion	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Onion
	No Onion	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Onion
	No Onion	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Onion
	No Onion	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Very Strong Onion

Comments

Please would you write any comments you have about each of the samples in the table below.
Please write the identification number of the sample in the first column and your comments in the second column.

Sample Number	Comments

Thank you for your assistance, it is much appreciated.

APPENDIX 12

RECIPE DEVELOPMENT

APPENDIX 12A: PRODUCT EVALUATION

When a line scale is provided please place a vertical mark on the line to indicate your response.
In addition it would also be helpful if you would indicate, by placing another mark labelled I on the line, where you think the ideal response should be.

Product Evaluation		Response/Scale for Response	Reasons/Comments
1.	**Texture**		
1.1	What is your opinion of the tenderness of the product (by appearance)?	Very Tough — Very Tender	
1.2	How acceptable is the texture?	Very Unacceptable — Very Acceptable	
2.	**Aroma**		
2.1	What do you think of the aroma of the product?	Off — Fresh	
2.2	How acceptable is the aroma?	Very Unacceptable — Very Acceptable	
3.	**Colour**		
3.1	What colour is the product?	Dark Brown — Bright Red	
3.2	How acceptable is the colour?	Very Unacceptable — Very Acceptable	
4.	**Quality: Fat Content**		
4.1	What is your opinion of the fat content of the product?	Very Fatty — Very Lean	
4.2	How acceptable is the fat content?	Very Unacceptable — Very Acceptable	
5.	**Grain of the Beef**		
5.1	What is your opinion of the grain of the beef?	Very Coarse — Very Fine	
6.2	How acceptable is the grain of the beef?	Very Unacceptable — Very Acceptable	

APPENDIX 12B: RECIPE EVALUATION

Please complete a new table for each of the recipes.
When a line scale is provided please place a vertical mark on the line to indicate your response.
In addition indicate, by placing another mark labelled I on the line, where you think the ideal response should be.

Recipe Evaluation		Response/Scale for Response		Reasons/Comments
1.	**Ingredients**			
1.1	Are the ingredients readily available?	Unavailable	Readily available	
1.2	What is your opinion of the ingredient prices?	High	Low	
2.	**Timing**			
2.1	What do you think of the preparation time?	Long	Short	
2.2	Is the timing easy to plan?	Difficult	Easy	
3.	**Cooking method**			
3.1	Is the cooking method suitable?	Very Unsuitable	Very Suitable	
3.2	Is it easy to control?	Difficult	Easy	
3.3	For what margin of error does the cooking method allow?	Low	High	
4.	**Cooking Time**			
4.1	Is the cooking time suitable?	Very Unsuitable	Very Suitable	
5.	**Versatility**			
5.1	Is the recipe versatile?	Not versatile	Very versatile	
6.	**Presentation**			
6.1	Does the recipe allow for variation in presentation?	Does not allow variation	Allows variation	
6.2	Does the recipe enable the dish to be presented attractively?	Very Unattractive	Very Attractive	

Recipe Evaluation		Response/Scale for Response	Reasons/Comments
7.	**Tenderness**		
7.1	What is your assessment of the tenderness of the meat?	Very Tough — Very Tender	
7.2	How acceptable is the tenderness of the meat?	Very Unacceptable — Very Acceptable	
8.	**Flavour**		
8.1	What is your assessment of the flavour of the final dish?	Very Bland/little flavour — Very flavoursome	
8.2	How strong is the beef flavour?	Not beefy — Very beefy	
8.3	How acceptable is the overall flavour?	Very Unacceptable — Very Acceptable	
9.	**Portion Size**		
9.1	How suitable is the portion size?	Very Unsuitable — Very suitable	
9.2	What would be the ideal portion size?		
10.	**Batch Size**		
10.1	What would be the ideal batch size?		
11.	**Service**		
11.1	What would be the most suitable style of service for this dish? (e.g. fast food, to order)		
12.	**Outlet Type**		
12.1	What would be the most suitable outlet type for this dish? (e.g. public bar, bistro, general dining, coffee shop)		
13.	**Portion Cost**		
13.1	Is the portion cost acceptable?		

APPENDIX 12C: RECIPES DEVELOPED FOR TENDER BEEF IN THIN SLICES

1. Teriyaki Beef (for 2 portions)

Ingredients

300 g	tender beef in thin strips (cut the slices into strips to your own requirements)
5 g (1 tsp)	freshly chopped root ginger
1	small clove of garlic, crushed
50 ml	soy sauce
25 ml(1 Tbsp)	mirin or sherry
10 g (1/2 Tbsp)	sugar
5 ml (1/2 Tbsp)	sesame oil
5 g (2 tsp)	cornflour

Method

1. Combine the freshly chopped root ginger, crushed garlic, soy sauce, mirin or sherry, sugar, cornflour and sesame oil to create the marinade.
2. Marinate the thin strips of beef for at least 2 hours.
3. Before cooking the beef, mix 20 ml of the marinade with 20 ml of water. Add the cornflour to a little of this mixture and mix to a smooth paste. Bring the rest of the mixture to the boil and add the cornflour paste with constant stirring. Cook until the mixture thickens and becomes clear. Hold the cooked mixture.
4. Stir fry the beef strips for a few minutes as desired.
5. Coat the beef strips with the glaze and serve with boiled white rice.

****

2. Beef and Mushroom Roulades (for 2 portions)

Ingredients

120 g	tender beef in thin slices (topside) (6 slices)
150 g	mushrooms, wiped clean and finely chopped
110 ml	dry white wine
40 ml	port
1	spring onions, finely chopped
1/4 tsp	lemon, finely grated rind only
0.5 g	salt
	freshly ground black pepper to taste
500 ml	thickened beef stock for braising

Method

1. Place the mushrooms, dry white wine and port in a heavy based frying pan over medium heat.
2. Bring the mixture in the frying pan to the boil
3. Reduce until almost all the liquid has evaporated, add the spring onions and continue heating until all the liquid has evaporated.
3. Remove the mushrooms and spring onions from the heat and place in a bowl.
4. Add the lemon rind, salt and pepper to the mushrooms/spring onion mixture and mix well.
5. Divide the stuffing equally between the thin slices of beef and spread to within 5 mm of the edges.
6. Roll up the roulades along the shortest length, place in the braising liquid in a deep baking dish and braise in the oven for 10 - 15 minutes at 220°C.

Braising Liquid
For 1 Litre

Ingredients

1 l	demiglaze
60 g	shallots, chopped
1	clove of garlic
20 ml	olive oil
250 ml	red wine
25 g	tomato paste

Method
1. Heat the olive oil in a heavy based pan.
2. Sauté the chopped shallots.
3. Add the red wine to the sauteed shallots and garlic and reduce.
4. Add the demiglaze to the reduced liquid in the pan and simmer.
5. Blend in the tomato paste to give the required flavour and consistency.

APPENDIX 13

BISTRO SIMULATION TRIALS WITH PROTOTYPE PRODUCTS

APPENDIX 13A: MENUS FOR CONSUMER TRIALS

MENU FOR DISHES PREPARED FROM TENDER BEEF IN THIN SLICES

MAIN COURSES

TERIYAKI BEEF

Tender marinated strips of beef, stir-fried and served in a teriyaki sauce with white rice and snow peas.

*

BEEF AND MUSHROOM ROULADES

Tender beef slices, rolled and filled with mushrooms cooked in wine and a hint of citrus, braised in a rich sauce and served with white rice and snow peas.

MENU FOR DISHES PREPARED WITH THE FRICADELLE

MAIN COURSES

FRICADELLE- THE ALTERNATIVE BURGER
Try this new burger with its unique flavour of beef and bacon.

Fricadelle served in a salad roll with french fries

OR

Two Fricadelles served with salad and french fries.

APPENDIX 13B: CONSUMER PROFILE QUESTIONNAIRE

Name ________________________________ **Table No.** _______

Some questions for you to answer while you are waiting for your orders.

Please circle the letter for your answer to each question.

1. **What type of hotel/motel foodservice outlet do you most often patronise?**

    a) bar counter meals
    b) bistros
    c) general restaurants
    d) fine dining
    e) banquets/functions
    f) other (please specify) ____________________________

2. **Which is the most frequent reason for which you eat out at hotel/motel foodservice outlets?**

    a) business
    b) family dining
    c) shopping trip
    d) social occasion/celebrating
    e) regular meals, e.g. lunches
    f) other (please specify) ______________________________

3. **For which meals would you most often eat at a hotel/motel?**

    a) breakfast
    b) lunch
    c) dinner
    d) supper
    e) snacks

4. **Which of the following categories best describes your occupation?**

    a) administrative
    b) maintenance/building and works
    c) secretarial
    d) academic
    e) librarian
    f) postgraduate student
    g) undergraduate student
    h) technical
    i) other please specify ____________________

APPENDIX 13C: QUESTIONNAIRES FOR TERIYAKI BEEF AND BEEF AND MUSHROOM ROULADES

Separate questionnaires were prepared for the two products with minor differences, indicated in the text, relating to the reason for the dish chosen and to the size of the pieces of beef (Question 6).

Name: ____________________________ **Table No.** ______

Please would you answer the following questions about the dish you have chosen?

Why did you choose the Teriyaki Beef (Beef and Mushroom Roulades) rather than the Beef and Mushroom Roulades (Teriyaki Beef)?

____

For each of the following questions place a tick in the box [✓] which is closest to your opinion.

Note: NL/ND is the centre of the scale and means Neither Like Nor Dislike.

OVERALL LIKING

1. **How do you like this beef dish overall, taking into account all the characteristics, appearance, flavour and texture?**

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Dislike Extremely | NL/ND | Like Extremely

Is there anything you particularly like about the dish you have just sampled?

____

____

____

Is there anything you particularly dislike about the dish you have just sampled?

____

____

____

LIKING OF THE BEEF DISH CHARACTERISTICS

2. **How do you like the overall appearance of this beef dish?**

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Dislike Extremely | NL/ND | Like Extremely

3. **How do you like the overall flavour of this beef dish?**

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Dislike Extremely | NL/ND | Like Extremely

4. How do you like the overall texture of this beef dish?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Dislike Extremely	NL/ND	Like Extremely

OPINION OF THE LEVEL/INTENSITY OF THE CHARACTERISTICS OF THE BEEF

APPEARANCE

5. What is your opinion of the shape of the pieces of beef?

☐ ☐ ☐ ☐ ☐

Extremely Irregular	Just Right	Extremely Regular

6. What is your opinion of the size of the pieces of beef?

For the Beef and Mushroom Roulades the characteristics to be assessed were Extremely Small to Extremely Large, and Extremely Thin to Extremely Thick.

☐ ☐ ☐ ☐ ☐

Extremely Short	Just Right	Extremely Long

☐ ☐ ☐ ☐ ☐

Extremely Narrow	Just Right	Extremely Wide

☐ ☐ ☐ ☐ ☐

Extremely Thin	Just Right	Extremely Thick

AROMA & FLAVOUR

7. What is your opinion of the aroma of this beef dish?

☐ ☐ ☐ ☐ ☐

Extremely Weak Beef Aroma	Just Right	Extremely Strong Beef Aroma

8. What is your opinion of the flavour of the beef in this dish?

☐ ☐ ☐ ☐ ☐

Extremely Weak Just Extremely Strong

TEXTURE

9. What is your opinion of the texture of the beef in this dish?

☐ ☐ ☐ ☐ ☐

Extremely Tender (breaks up)	Just Right	Extremely Tough

For the next two questions please place a tick in the box [✓] which is closest to your anticipated response.

10. What price would you be prepared to pay for the dish you have just sampled if it were offered as a main course menu item by a hotel or motel bistro or restaurant?

☐ ⩾ $15
☐ $12 - $14.95
☐ $10 - $11.95
☐ $8 - $9.95
☐ $6 - $7.95
☐ < $6

11. If you were offered a similar beef dish on the menu in a hotel bistro or restaurant, made from the same type and quality of beef as you have just tasted, what would be your response?

☐ Definitely would buy
☐ Probably would buy
☐ Maybe buy/maybe not buy
☐ Probably would not buy
☐ Definitely would not buy

12. Comments - please write any comments you may have about the beef dish you have sampled below.

____

____

____

____

Thank you for your participation. It is very much appreciated.

APPENDIX 13D: QUESTIONNAIRE FOR THE FRICADELLE

Name: ____________________________ **Table No.** ______

Which alternative did you choose? Please place a tick in the box [✓].

- ☐ Fricadelle served in a salad roll with french fries
- ☐ Two Fricadelles served with salad and french fries

What was the reason for your choice?

____

For each of the following questions place a tick in the box [✓] which is closest to your opinion.

Note: NL/ND is the centre of the scale and means Neither Like Nor Dislike.

OVERALL LIKING

1. How do you like the Fricadelle overall, taking into account all the characteristics, appearance, flavour and texture?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Dislike Extremely — NL/ND — Like Extremely

Is there anything you particularly like about the Fricadelle you have just sampled?	**Is there anything you particularly dislike about the Fricadelle you have just sampled?**
______________________________	______________________________
______________________________	______________________________
______________________________	______________________________

LIKING OF THE FRICADELLE CHARACTERISTICS

2. How do you like the overall appearance of the Fricadelle?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Dislike Extremely — NL/ND — Like Extremely

3. How do you like the overall flavour of the Fricadelle?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Dislike Extremely — NL/ND — Like Extremely

4. How do you like the overall texture of the Fricadelle?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Dislike Extremely	NL/ND	Like Extremely

OPINION OF THE LEVEL/INTENSITY OF THE CHARACTERISTICS OF THE FRICADELLE

APPEARANCE

5. What is your opinion of the colour of the Fricadelle?

☐ ☐ ☐ ☐ ☐

Extremely Pale	Just Right	Extremely Dark

6. What is your opinion of the size of the Fricadelle? Please answer for size and thickness.

6.1 ☐ ☐ ☐ ☐ ☐

Extremely Small Size	Just Right	Extremely Large Size

6.2 ☐ ☐ ☐ ☐ ☐

Extremely Thin	Just Right	Extremely Thick

AROMA & FLAVOUR

7. What is your opinion of the aroma of the Fricadelle?

☐ ☐ ☐ ☐ ☐

Extremely Weak Aroma	Just Right	Extremely Strong Aroma

8. What is your opinion of the flavour of the Fricadelle?

☐ ☐ ☐ ☐ ☐

Extremely Weak Flavour	Just Right	Extremely Strong Flavour

TEXTURE

9. **What is your opinion of the texture of the Fricadelle? Please answer for tenderness, crumbliness and dryness.**

9.1 ☐ ☐ ☐ ☐ ☐

Extremely Tender	Just Right	Extremely Rubbery

9.2 ☐ ☐ ☐ ☐ ☐

Extremely Crumbly	Just Right	Extremely Firm

9.3 ☐ ☐ ☐ ☐ ☐

Extremely Dry	Just Right	Extremely Moist

For the next two questions please place a tick in the box [ ] which is closest to your anticipated response.

10. **What price would you be prepared to pay for the dish you have just sampled if it were offered as a main course menu item by a hotel or motel bistro or restaurant?**

☐ ⩾$12
☐ $10 - $11.95
☐ $8 - $9.95
☐ $6 - $7.95
☐ <$6

11. **If you were offered a similar dish including the Fricadelle, on the menu in a hotel bistro or restaurant, what would be your response?**

☐ Definitely would buy
☐ Probably would buy
☐ Maybe buy/maybe not buy
☐ Probably would not buy
☐ Definitely would not buy

12. **Comments - please write any further comments you may have about the Fricadelle below.**

____

____

Thank you for your participation. It is very much appreciated.

APPENDIX 14

PLOUGH HOTEL BISTRO CONSUMER TRIAL SPECIALS MENU AND QUESTIONNAIRE

APPENDIX 14A: PLOUGH HOTEL BISTRO SPECIALS MENU

Soup $4.50

Fricadelle Beef and Bacon Patty $6.50 including salad - served in our square meal bread with bacon and tomato

Pasta and fresh vegetables $8.50

Char grilled fillet of lamb with creamed tomato $10.00

Gemfish
- fish and chips $9.90
- grilled with asparagus and cheese sauce $11.00
- fried with Thai sweet chilli sauce $11.00

Whole Barramundi $13.90
Whole Flounder $13.50

APPENDIX 14B: PLOUGH HOTEL BISTRO CONSUMER QUESTIONNAIRE *Page 1*

PART A Could you please answer these questions while you are waiting for your meal? For each question please mark the box, which identifies your answer, with a cross [X].

A1. Male ☐ Female ☐ **A2. Occupation** ____________________

A3. Age Group < 20 ☐ 20 - 34 ☐ 35 - 49 ☐ 50 - 64 ☐ ≥ 65 years ☐

A4. How often do you eat beef burgers?
at least once a fortnight ☐ about once a month ☐
once every 2 - 3 months ☐ less than once every 3 months ☐

A5. How often do you eat out at hotels or motels?
at least once a fortnight ☐ about once a month ☐
once every 2 - 3 months ☐ less than once every 3 months ☐

A6. At what type of hotel/motel foodservice outlet do you *most often* eat out?
bar counter meals ☐ bistros ☐ general restaurants ☐
fine dining ☐ banquets/functions ☐ other (please specify)______

A7. Which is the *most frequent* reason for eating out at hotel or motel foodservice outlets?
business ☐ family dining ☐ shopping trip ☐ social occasion/celebrating ☐
regular meals, e.g. lunches ☐ other (please specify) ________________

A8. For which meals would you *most often* eat out at a hotel or motel?
breakfast ☐ lunch ☐ dinner ☐ supper ☐ snacks ☐

A7. Why did you choose the Fricadelle from the menu?

____

PART B When you have eaten your Fricadelle please would you answer the following questions.

B1. Is there anything you particularly like about the Fricadelle?

____

B2. Is there anything you particularly dislike about the Fricadelle?

____

Please write your score in the boxes for questions B3 - B6 using the following 1-9 scale.

1	2	3	4	5	6	7	8	9
Dislike Extremely				**Neither Like Nor Dislike**				**Like Extremely**

B3. How do you like the Fricadelle overall, considering the whole eating experience? ☐
B4. How do you like the overall appearance of the Fricadelle? ☐
B5. How do you like the overall flavour of the Fricadelle? ☐
B6. How do you like the overall texture of the Fricadelle? ☐

PART C For each question please place a X in the box which is closest to your opinion. ***Page 2***

C1. What is your opinion of the colour of the Fricadelle?

☐	☐	☐	☐	☐
Extremely Pale		Just Right		Extremely Dark

C2. What is your opinion of the size of the Fricadelle? Please answer for size and thickness.

C2.1

☐	☐	☐	☐	☐
Extremely Small Size		Just Right		Extremely Large Size

C2.2

☐	☐	☐	☐	☐
Extremely Thin		Just Right		Extremely Thick

C3. What is your opinion of the aroma of the Fricadelle?

☐	☐	☐	☐	☐
Extremely Weak Aroma		Just Right		Extremely Strong Aroma

C4. What is your opinion of the flavour of the Fricadelle?

☐	☐	☐	☐	☐
Extremely Weak Flavour		Just Right		Extremely Strong Flavour

C5. What is your opinion of the texture of the Fricadelle? Please answer for tenderness, crumbliness and dryness.

C5.1

☐	☐	☐	☐	☐
Extremely Tender		Just Right		Extremely Rubbery

C5.2

☐	☐	☐	☐	☐
Extremely Crumbly		Just Right		Extremely Firm

C5.3

☐	☐	☐	☐	☐
Extremely Dry		Just Right		Extremely Moist

PART D For each question please mark a X in the box which is closest to your opinion.

D1. What is your opinion of the price you paid for the Fricadelle?

inexpensive ☐ reasonable price ☐ expensive ☐

D2. Would you buy this dish again?

Definitely would ☐ Probably would ☐ Maybe/maybe not ☐

Definitely would not ☐ Probably would not ☐

MANY THANKS FOR YOUR INTEREST. IT IS MUCH APPRECIATED

SECTION 3:

PRODUCT ADOPTION

STUDY

APPENDIX 15

TYPES OF QUESTIONS AND SCALES USED IN SURVEYS 1, 2 AND 3

Stage of the Model/Information Collected	Hypo-thesis	Survey No.	Questions	Question Type/Scale	Coding	Comments/ Data Analysis
Awareness and Interest						
Use of sources of information		2	4.1	monadic Yes/No	2 points	frequency
Frequency of use of sources of information		2	4.2	direct judgement rating scale	5 points	frequency
Influence of sources of information		2	4.3	semantic differential	5 points	frequency
Frequency of use of methods of menu analysis		2	1	direct judgement rating scale	5 points	frequency
How are menus revised		2	2.1	multiple choice with 'go to' links to other parts	6 choices	frequency
Frequency of menu revision		2	2.2	multiple choice verbal	4 choices	frequency
Frequency of introducing new dishes		2	2.3	multiple choice verbal	5 choices	frequency
What kinds of suppliers are used for different new beef product categories	H1, H2	2	9	multiple choice verbal	5 choices	frequency
New beef products purchased in the past 5 years		2	10	monadic Yes/No	2 point	frequency
Frequency of staying with the same supplier for new beef products	H3	2	11	multiple choice verbal	4 choices	frequency
Number of new ingredients purchased at menu changes		2	3.1	Direct judgement rating scale	5 choices	frequency
Is the number of new ingredients purchased typical?		2	3.2	monadic Yes/No	2 points	frequency
Number of new ingredients purchased between menu changes		2	3.3	Direct judgement rating scale	5 choices	frequency
Is the number of new ingredients purchased typical		2	3.4	monadic Yes/No	2 choices	frequency

Stage of the Model/Information Collected	Hypo-thesis	Survey No.	Questions	Question Type/Scale	Coding	Comments/ Data Analysis
Evaluation and Trial: Product Concept						
Outlets in which to use the product	H1	1	1.1, 2.1, 3.1, 4.1, 5.1	open ended qualitative	choice from outlets named in Al Survey 1	frequency
Most suitable meal periods for the product		1	1.2, 2.2, 3.2, 4.2, 5.2	multiple choice	4 choices	frequency
Product benefit ratings	H4	1	1.3, 2.3, 3.3, 4.3, 5.3	semantic differential	5 points	frequency
Dish types for the product		1	1.4, 2.4, 3.4, 4.4, 5.4	open ended qualitative linked to other parts	18, 16, 8, 7, 8 dishes	frequency
Cooking methods for the product		1	1.4, 2.4, 3.4, 4.4, 5.4	open ended qualitative linked to other parts	12, 12, 3, 5, 5 cooking methods	frequency
Consumer profiles - age group		1	1.4, 2.4, 3.4, 4.4, 5.4	multiple choice leading from other parts	5 choices	frequency
Consumer profiles - sex		1	1.4, 2.4, 3.4, 4.4, 5.4	multiple choice leading from other parts	3 choices	frequency
Consumer profiles - customer type		1	1.4, 2.4, 3.4, 4.4, 5.4	multiple choice leading from other parts	6 choices	frequency
Expected demand for the product		1	1.5, 2.5, 3.5, 4.5, 5.5	semantic differential	5 points	frequency
Product risks	H5	1	1.6, 2.6, 3.6, 4.6, 5.6	semantic differential	5 points	frequency
Interest in trying the product	H4, H5	1	1.7, 2.7, 3.7, 4.7, 5.7	semantic differential	5 points	frequency
Degree of innovation		1	1.8, 2.9, 3.10, 4.10, 5.10	multiple choice verbal	5 choices	frequency
Comments on flavour combination		1	3.8, 4.8, 5.8	open ended qualitative	7 suggestions	frequency

Stage of the Model/Information Collected	Hypo-thesis	Survey No.	Questions	Question Type/Scale	Coding	Comments/ Data Analysis
Liking/disliking of products		1	D1.1, D1.2	open ended qualitative	14, 5, 10, 9, 9, 5, 8, 11, 9, 12 comments	frequency
How chefs test a new product		1	B1	open ended	17 points made	frequency
Who is involved in making a decision to test a new beef product before the product is adopted		1	B2	multiple choice	18 choices	frequency
Additional benefits offered by the product		1	D1.3	semantic differential	5 points	frequency
Evaluation and Trial: Three New Beef Product Types						
Importance of product benefits looked for when deciding to try a new beef product	H4	2	5.1.1, 5.2.1, 5.3.1	semantic differential	5 points	frequency
Scoring of the 5 most important product benefits looked for	H4	2	5.1.2, 5.2.2, 5.3.2	direct judgement constant sum	constant sum 100 for 5 benefits	totals for named benefits
Degree of value added to the products		1	D1.7	semantic differential	10 points	frequency
Has respondent been offered similar products before?		1	D1.4	open ended	free choice	qualitative
Reasons for rejection or adoption of products previously offered		1	D1.5, D1.6	Likert scale	5 choices	frequency
Evaluation and Trial: Dish Evaluation						
Personnel involved in dish evaluation		2	8.1	monadic Yes/No	2 points	frequency
Frequency of involvement of personnel		2	8.2	semantic differential	5 points	frequency
Influence of personnel involved		2	8.3	semantic differential	5 points	frequency
Evaluation and Trial: Product Prototypes						
Judgement of product physical and sensory characteristics		3	TA1-TA6.3, TB7 - TB9.2, FA7 - FA11.3	semantic differential 'just right'	5 points	frequency
Likes and dislikes about the product		3	TB1 - TB2, FA1 - FA2	open ended qualitative	14, 8, 6, 11 comments	frequency

Stage of the Model/Information Collected	Hypo-thesis	Survey No.	Questions	Question Type/Scale	Coding	Comments/ Data Analysis
Liking/disliking the product sensory characteristics		3	TB3 - TB6, FA3 - FA6	direct judgement hedonic scale	9 points	frequency
Outlets in which to use the product	H1	3	TC1.1, FB1.1	open ended	choose from A1 Survey 1	frequency
Life cycle of the product on the menu		3	TC1.2, FB1.2	multiple choice	5 choices	frequency
Meal period most suitable for the product		3	TC2, FB2	multiple choice	4 choices	frequency
Dish types suggested for use of the product		3	TC3.1, FB3.1	open ended qualitative linked to other parts	18, 8 dishes	frequency
Cooking methods for the dishes		3	TC3.1, FB3.1	open ended qualitative linked to other parts	12, 3 methods	frequency
Probable selling price for the dishes suggested		3	TC3.1, FB3.1	open ended	free choice	frequency
Customer profile - age groups		3	TC3.2, FB3.2	multiple choice leading from other parts	5 choices	frequency
Customer profile - sex		3	TC3.2, FB3.2	multiple choice leading from other parts	3 choices	frequency
Customer profile - customer type		3	TC3.2, FB3.2	multiple choice leading from other parts	6 choices	frequency
Product benefits	H4	3	TC4, FB4	semantic differential	5 choices	frequency
Product risks	H5, H6	3	TC5, FB5	semantic differential	5 choices	frequency
Adoption: Product Prototypes						
Was a purchase decision made after testing the product?		3	TD1.1, FC1.1	monadic Yes/No	2 choices	frequency
Purchase intention	H4, H5	3	TD1.2, FC1.2	rating scale verbal	5 points	frequency
The form preferred to purchase the product		3	TD2	multiple choice	3 choices	frequency
Who else, other than the respondent was involved in the product evaluation		3	TD3, FC3	multiple choice	21 choices	frequency

Stage of the Model/Information Collected	Hypo-thesis	Survey No.	Questions	Question Type/Scale	Coding	Comments/ Data Analysis
What would the next step be in adopting the product?		3	TD4, FC4	multiple choice	3 choices	frequency
How would the product be placed on the menu?		3	TD5, FC5	multiple choice	4 choices	frequency
What further trials would be carried out?		3	TD6.1, FC.1	multiple choice multiple response	7 choices	frequency
What weight of product would be required for further trials?		3	TD6.2, FC5.2	open ended	quantity	frequency
What other information would be required about the product?		3	TD6.3, FC5.3	open ended	7, 1 suggestions	qualitative
Who would involved in dish evaluation?		3	TD6.4, FC5.4	multiple choice	21 choices	frequency
Who would make the final purchasing decision?		3	TD7, FC6	multiple choice	21 choices	frequency
Comments about the products		3	TD8, FC7	open ended	18, 12 comments	frequency
Use of steps in menu planning		2	6.1	monadic Yes/No	2 choices	frequency
Frequency of use of steps in menu planning		2	6.2	direct judgement ratings scale	5 choices	frequency
Number of years steps in menu planning used		2	6.3	open ended quantitative	no. years	frequency
Sequence in which steps in menu planning used		2	7	ranking	21 choices	frequency
Personnel involved in deciding upon purchasing specifications		2	8.4	monadic Yes/No	2 choices	frequency
Frequency personnel involved in deciding upon purchasing specifications		2	8.5	semantic differential	5 choices	frequency
Influence of personnel involved in deciding upon purchasing specifications		2	8.6	semantic differential	5 choices	frequency
Profiles of Hotels and Motels						
Outlet types		1	A1	multiple choice multiple response	9 choices	frequency
Trading pattern of outlets		1	A1	multiple choice multiple response	4 choices	frequency

Stage of the Model/Information Collected	Hypo-thesis	Survey No.	Questions	Question Type/Scale	Coding	Comments/ Data Analysis
Max. seating capacity of outlets		1	A1	open ended quantitative	quantitative	frequency
Profiles of Menu Planning Decision Makers						
Age groups of menu planning decision makers		1	E1a)	multiple choice	5 choices	frequency
Qualifications of menu planning decision makers	H6, H7	1	E1b)	multiple choice multiple response	9 choices	frequency
Country of qualification	H6, H7	1	E1b)	open ended	12 countries	frequency
Subject of Qualification	H6, H7	1	E1b)	open ended	7 subjects	frequency
Range of experience as a chef in years	H6, H7	1	E1c)	open ended quantitative	number of years	frequency
Number of overseas countries worked in	H6, H7	1	E1d)	open ended quantitative	number of countries	frequency
Number of other Australian States worked in	H6, H7	1	E1e)	open ended quantitative	number of States	frequency
Professional association membership	H8		E1f)	multiple choice multiple response	6 choices	frequency
Profiles of Consumers using the Outlets						
Consumer - age ranges		1	E2a)	multiple choice	5 choices	frequency
Consumer - sex		1	E2b)	multiple choice	3 choices	frequency
Consumer - customer type		1	E2c)	multiple choice	6 choices	frequency

Note: For Survey 3, in order to differentiate between the questions relating to each of the two new beef product prototypes a prefix has been added to the question numbers - T for questions relating to the Tender Beef in Thin Slices and F for questions relating to the Fricadelle .

APPENDIX 16

SURVEY 1

APPENDIX 16A: QUESTIONNAIRE

NEW BEEF PRODUCT ADOPTION PROCESS SURVEY

SECTION A: GENERAL INFORMATION

Foodservice Operation Name________________________________

A1 OUTLETS:

Outlet	Outlet Name	Outlet Type e.g. Bistro (SHOWCARD 1 OR 2)	A) Trading Pattern B) Circle the busiest trading period code (SHOWCARD 3)	Max. Seating Capacity
Outlet 01				
Outlet 02				
Outlet 03				
Outlet 04				
Outlet 05				
Outlet 06				
Outlet 07				
Outlet 08				
Outlet 09				
Outlet 10				

INTERVIEWER TO FILL OUT

Group/Chain Name________________________________

Address________________________________

Telephone Number________________________________

Respondent's Name________________________________

Position________________________________

Interviewer________________________________

Date________________________________

SECTION B: NEW BEEF PRODUCT DECISIONS

B1 **When you first become aware of a new beef product which interests you what do you do to 'test' it for suitability in order to make a decision to use it for a dish on your menu?**

What do you look for and do to the product to 'test' it? (PROBE FULLY IF TIME PERMITS)

____

____

____

____

____

____

____

____

B2 **Who is involved in making the decision to 'test' a new beef product before the product is adopted? (SHOWCARD 4)**

Personnel Codes____

SECTION C: PRODUCT CONCEPTS

I have five product concepts for you to consider. I would like to ask you some questions about them to see what you think of them .

I will go through the questions about the first product concept with you, which will take a few minutes. The questions about the other product concepts are the same as for the first one so the other questions will be quite quick to answer.

RESPONDENT TO READ AND FILL OUT THIS SECTION

THE PRODUCT CONCEPTS AND ASSOCIATED QUESTIONS SHOULD BE GIVEN TO THE CHEF ONE CONCEPT AT A TIME. PLEASE DO NOT HAND OVER ALL THE SHEETS AT ONCE.

FOR EACH PRODUCT CONCEPT REPEAT THE PRODUCT DESCRIPTION TO THE CHEF AS YOU GIVE HIM/HER THE SHEET THEN ALLOW THE CHEF TO READ THE PRODUCT DESCRIPTION FOR HIMSELF/HERSELF.

EXPLAIN EACH OF THE QUESTIONS FOR THE FIRST PRODUCT CONCEPT AS THE CHEF ANSWERS THEM. THE CHEF SHOULD THEN BE ABLE TO ANSWER THE QUESTIONS FOR THE OTHER PRODUCT CONCEPTS WITHOUT FURTHER EXPLANATION.

PRODUCT CONCEPT 1: TENDER BEEF IN THIN SLICES

This is a raw beef product which will be uniformly and thinly sliced to enable the chef to prepare delicate beef dishes. It will be suitable for the creation of tender, lighter beef dishes which could be offered as entrées or as lighter main courses, notably as alternatives to steaks and other more substantial beef dishes. The slices will be very thin (2-3 mm thick), tender and without visible fat. They will be attractively lean in appearance and will require little or no cooking being very suitable for Australian, European and Asian dishes.

Product Dimensions: the slices will be offered in two sizes, 2 - 3 mm thick, 10 cm in length and 2 cm or 7 cm wide (approximately).

Packaging: cryovac packed in trays to protect the slices from damage and to enable easy separation without tearing. The weight of beef per pack will be 2 kg to avoid wastage. The product will be sold chilled.

Price: $7.20 per kg (approximately using topside or silverside).

Suggestions for use of the product include:

Australian dishes: beef in garlic sauce, beef in mushroom sauce;
European dishes: rolled and stuffed as in beef olives, beef 'birds' and roulades; in beef consommé;
beef salads;
Asian dishes: sukiyaki, shabu-shabu, beef strips Balinese style and beef in oyster sauce.
The product will be marketed to hotels and motels but will also be attractive to restaurants and cafes.

PRODUCT CONCEPT 1: TENDER BEEF IN THIN SLICES

C1.1 In which of your outlet(s) would you use this type of product?

____

____

____

____

C1.2 For which meal period(s) would this product be most suitable?

PLEASE CIRCLE THE CHOSEN NUMBER(S).

1. Breakfast
2. Lunch
3. Dinner
4. Supper

C1.3 Could you tell me how you would rate this product?

a) Poor value for money	____:____:____:____:____	Excellent value for money
b) No time saved	____:____:____:____:____	A great deal of time saved
c) Not versatile	____:____:____:____:____	Very versatile
d) Low quality	____:____:____:____:____	Very high quality
e) Never used it before	____:____:____:____:____	Used for many years
f) No need for product	____:____:____:____:____	Product is necessity
g) Have no knowledge of product	____:____:____:____:____	Great deal of knowledge of product

C1.4 How would you use this product, what cooking methods would you use and what types of customers would you expect to buy the dishes? (<u>PLEASE USE THE TABLE BELOW</u>)

C1.4 How would you use this product?	Types of Customers who would buy the dishes		
a) Dish Type and b) Cooking Method	Age Group <20, 20-34, 35-49, 50-64, ≥65 years	Male/ Female M/F	Category of Customer* 1 2 3 4 5 6

* <u>Category of Customer Type</u>

1. Business people.
2. Families.
3. Shoppers.
4. People out for a social occasion/celebrating.
5. Regular customers not described by other terms here.
6. Mixture not clearly defined.

C1.5 What demand for dishes made from this product would you expect?

No demand for dishes ____:____:____:____:____ Very high demand for dishes

C1.6 How do you rate the risk in using this product?

Type of Risk expected in using the product		Degree of risk
1.	too high use of one piece of equipment;	No risk ____:____:____:____:____ Very high risk
2.	increased storage capacity required;	No risk ____:____:____:____:____ Very high risk
3.	increased staff costs;	No risk ____:____:____:____:____ Very high risk
4.	chefs' skills reduced;	No risk ____:____:____:____:____ Very high risk
5.	poor peer recognition;	No risk ____:____:____:____:____ Very high risk
6.	failure of the product in the marketplace;	No risk ____:____:____:____:____ Very high risk
7.	high financial losses;	No risk ____:____:____:____:____ Very high risk
8.	food safety risk.	No risk ____:____:____:____:____ Very high risk

C1.7 How interested are you in giving this product a trial?

Not interested ____:____:____:____:____ Very interested

C1.8 Do you see this product as (PLEASE CIRCLE THE RELEVANT NUMBER):

1. an innovation;
2. a duplicate of products already available;
3. an improvement on products already available;
4. an adaptation of products already available;
5. an extension of a line of products already available.

PRODUCT CONCEPT 2: FLAVOURED PICKLED BEEF

This is the traditional pickled beef but with new spicy flavour combinations. It will be lean in appearance and have minimal visible fat.

Product Dimensions: the product will have a cross section of 7 cm x 10 cm (approximately).

Packaging: it will be cryovac packed.

Price: $7.00 per kg (approximately for using topside or silverside)

Suggested flavour combinations include:
English pickled beef (cure includes salt and nitrite): flavoured with onion, clove and bay leaf.
Spanish pickled beef (cure includes salt): flavoured with capsicum/pepper, tomato and garlic.
Aboukt/Middle Eastern pickled beef (cure includes salt): flavoured with fenugreek, paprika, black pepper, cumin, allspice, cayenne pepper and garlic.
Chinese pickled beef (cure includes salt and red colouring): flavoured with garlic, hoisin sauce, tomato sauce, and sugar.

The product will be marketed to the hotels/motels market segment but will also be attractive to restaurants and cafés.

PRODUCT CONCEPT 2: FLAVOURED PICKLED BEEF

C2.1 In which of your outlet(s) would you use this type of product?

____

____

____

____

C2.2 For which meal period(s) would this product be most suitable?

PLEASE CIRCLE THE CHOSEN NUMBER(S).

1. Breakfast
2. Lunch
3. Dinner
4. Supper

C2.3 Could you tell me how you would rate this product?

a) Poor value for money ____:____:____:____:____ Excellent value for money

b) No time saved ____:____:____:____:____ A great deal of time saved

c) Not versatile ____:____:____:____:____ Very versatile

d) Low quality ____:____:____:____:____ Very high quality

e) Never used it before ____:____:____:____:___ Used for many years

f) No need for product ____:____:____:____:____ Product is necessity

g) Have no knowledge of product ____:____:____:____:____ Great deal of knowledge of product

C2.4 How would you use this product, what cooking methods would you use and what types of customers would you expect to buy the dishes? (PLEASE USE THE TABLE BELOW.)

C2.4 How would you use this product?	Types of Customers who would buy the dishes		
a) Dish Type and b) Cooking Method	Age Group <20, 20-34, 35-49, 50-64, ≥65 years	Male/ Female M/F	Category of Customer* 1 2 3 4 5 6

* Category of Customer Type

1. Business people.
2. Families.
3. Shoppers.
4. People out for a social occasion/celebrating.
5. Regular customers not described by other terms here.
6. Mixture not clearly defined.

C2.5 What demand for dishes made from this product would you expect?

No demand for dishes ____:____:____:____:____ Very high demand for dishes

C2.6 How do you rate the risk in using this product?

Type of Risk expected in using the product	Degree of risk
1. too high use of one piece of equipment;	No risk ____:____:____:____:____ Very high risk
2. increased storage capacity required;	No risk ____:____:____:____:____ Very high risk
3. increased staff costs;	No risk ____:____:____:____:____ Very high risk
4. chefs' skills reduced;	No risk ____:____:____:____:____ Very high risk
5. poor peer recognition;	No risk ____:____:____:____:____ Very high risk
6. failure of the product in the marketplace;	No risk ____:____:____:____:____ Very high risk
7. high financial losses;	No risk ____:____:____:____:____ Very high risk
8. food safety risk.	No risk ____:____:____:____:____ Very high risk

C2.7 How interested are you in giving this product a trial?

Not interested ____:____:____:____:____ Very interested

C2.8 Which flavour combination would you prefer? Your suggestions will be most helpful.

____

C2.9 Do you see this product as (please circle the relevant number):

1. an innovation;
2. a duplicate of products already available;
3. an improvement on products already available;
4. an adaptation of products already available;
5. an extension of a line of products already available?

PRODUCT CONCEPT 3: FRICADELLE - THE ALTERNATIVE BURGER

This product is the interesting alternative to the Big Burger. It has unique features which distinguish it from the usual beefburger, both in shape and flavour.
Shape: it is long and oval fitting snugly into a long bread roll.
Flavour: beef and bacon with a delicate blend of herb and lemon.
Texture: it is tender and soft.
It will take no longer to cook than the burger and so will be suitable for fast lunch-time service.
It will be individually quick frozen (IQF) for easy separation and sold frozen, packaged in cartons.

The flavour combination suggested is:
Danish - with bacon, lemon and dill or parsley.
Portion Size: 85 g
Packaging: 40 per carton
Price: $24.10 per carton

The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes especially for fast lunch service.

PRODUCT CONCEPT 3: FRICADELLE - THE ALTERNATIVE BURGER

C3.1 In which of your outlet(s) would you use this type of product?

____

____

____

____

C3.2 For which meal period(s) would this product be most suitable?
PLEASE CIRCLE THE CHOSEN NUMBER(S).

1. Breakfast
2. Lunch
3. Dinner
4. Supper

C3.3 Could you tell me how you would rate this product?

a) Poor value for money ____:____:____:____:____ Excellent value for money

b) No time saved ____:____:____:____:____ A great deal of time saved

c) Not versatile ____:____:____:____:____ Very versatile

d) Low quality ____:____:____:____:____ Very high quality

e) Never used it before ____:____:____:____:____ Used for many years

f) No need for product ____:____:____:____:____ Product is necessity

g) Have no knowledge of product ____:____:____:____:____ Great deal of knowledge of product

C3.4 How would you use this product, what cooking methods would you use and what types of customers would you expect to buy the dishes? (PLEASE USE THE TABLE BELOW.)

C3.4 How would you use this product?	**Types of Customers who would buy the dishes**		
a) Dish Type and b) Cooking Method	**Age Group <20, 20-34, 35-49, 50-64, ≥65 years**	**Male/ Female M/F**	**Category of Customer* 1 2 3 4 5 6**

* Category of Customer Type

1. Business people.
2. Families.
3. Shoppers.
4. People out for a social occasion/celebrating.
5. Regular customers not described by other terms here.
6. Mixture not clearly defined.

C3.5 What demand for dishes made from this product would you expect?

No demand for dishes ____:____:____:____:____ Very high demand for dishes

C3.6 How do you rate the risk in using this product?

Type of Risk expected in using the product	Degree of risk
1. too high use of one piece of equipment;	No risk ____:____:____:____:____ Very high risk
2. increased storage capacity required;	No risk ____:____:____:____:____ Very high risk
3. increased staff costs;	No risk ____:____:____:____:____ Very high risk
4. chefs' skills reduced;	No risk ____:____:____:____:____ Very high risk
5. poor peer recognition;	No risk ____:____:____:____:____ Very high risk
6. failure of the product in the marketplace;	No risk ____:____:____:____:____ Very high risk
7. high financial losses;	No risk ____:____:____:____:____ Very high risk
8. food safety risk.	No risk ____:____:____:____:____ Very high risk

C3.7 How interested are you in giving this product a trial?

Not interested ____:____:____:____:____ Very interested

C3.8 How do you rate the flavour combination suggested?

Not interested ____:____:____:____:____ Very interested

C3.9 What flavour combination would you prefer? Your suggestions will be most helpful.

____

C3.10 Do you see this product as (PLEASE CIRCLE THE RELEVANT NUMBER):

1. an innovation;
2. a duplicate of products already available;
3. an improvement on products already available;
4. an adaptation of products already available;
5. an extension of a line of products already available?

PRODUCT CONCEPT 4: COATED BEEF PRODUCT

This is a full size portion of two minced beef patties enclosing a flavoured sauce and coated with crispy breadcrumbs. It is ideal for the hotel with a busy counter lunch trade and/or gaming facilities (pokies) providing an interesting cheaper alternative to steak. It will be sold frozen in portion controlled sizes and packaged in cartons.

The flavour alternative suggested, with ingredients minced into a sauce is:
Beef portions with mushroom sauce.

Portion Size: 130 g

Packaging: 24 per carton

Price: $32.00 per carton

The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes especially for fast lunch service.

PRODUCT CONCEPT 4: COATED BEEF PRODUCT

C4.1 In which of your outlet(s) would you use this type of product?

____

____

____

C4.2 For which meal period(s) would this product be most suitable?
<u>PLEASE CIRCLE THE CHOSEN NUMBER(S)</u>.

1. Breakfast
2. Lunch
3. Dinner
4. Supper

C4.3 Could you tell me how you would rate this product?

a) Poor value for money ____:____:____:____:____ Excellent value for money

b) No time saved ____:____:____:____:____ A great deal of time saved

c) Not versatile ____:____:____:____:____ Very versatile

d) Low quality ____:____:____:____:____ Very high quality

e) Never used it before ____:____:____:____:____ Used for many years

f) No need for product ____:____:____:____:____ Product is necessity

g) Have no knowledge of product ____:____:____:____:____ Great deal of knowledge of product

C4.4 How would you use this product, what cooking methods would you use and what types of customers would you expect to buy the dishes? <u>(PLEASE USE THE TABLE BELOW.)</u>

C4.4 How would you use this product?	Types of Customers who would buy the dishes		
a) Dish Type and b) Cooking Method	Age Group <20, 20-34, 35-49, 50-64, $\geq$65 years	Male/ Female M/F	Category of Customer* 1 2 3 4 5 6

* <u>Category of Customer Type</u>

1. Business people.
2. Families.
3. Shoppers.
4. People out for a social occasion/celebrating.
5. Regular customers not described by other terms here.
6. Mixture not clearly defined.

C4.5 What demand for dishes made from this product would you expect?

No demand for dishes ____:____:____:____:___ Very high demand for dishes

C4.6 How do you rate the risk in using this product?

Type of Risk expected in using the product	Degree of risk
1. too high use of one piece of equipment;	No risk ____:____:____:____:____ Very high risk
2. increased storage capacity required;	No risk ____:____:____:____:____ Very high risk
3. increased staff costs;	No risk ____:____:____:____:____ Very high risk
4. chefs' skills reduced;	No risk ____:____:____:____:____ Very high risk
5. poor peer recognition;	No risk ____:____:____:____:____ Very high risk
6. failure of the product in the marketplace;	No risk ____:____:____:____:____ Very high risk
7. high financial losses;	No risk ____:____:____:____:____ Very high risk
8. food safety risk.	No risk ____:____:____:____:____ Very high risk

C4.7 How interested are you in giving this product a trial?

Not interested ____:____:____:____:____ Very interested

C4.8 How do you rate the flavour combination suggested?

Not interested ____:____:____:____:____ Very interested

C4.9 What flavour combination would you prefer? Your suggestions will be most helpful.

____

C4.10 Do you see this product as (PLEASE CIRCLE THE RELEVANT NUMBER):

1. an innovation;
2. a duplicate of products already available;
3. an improvement on products already available;
4. an adaptation of products already available;
5. an extension of a line of products already available?

PRODUCT CONCEPT 5: PRE-COOKED MEAT LOAF

This will be a finished product ready to serve chilled or to be reheated for service. The beef mixture will include minced topside of beef, tomato paste, a mixture of vegetables and/or nuts, a hint of garlic, oregano, sugar, salt and black pepper; and the loaf will be finished with a contrasting crisp, cheesy, crumbed topping.

Meat Loaf Size: 2.00 kg

Packaging: it will be frozen and packed in trays to fit the bain marie. There will be 4 trays per carton.

Price: $56.00 per carton ($14 per tray)

The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes especially for fast lunch service.

PRODUCT CONCEPT 5: PRE-COOKED MEAT LOAF

C5.1 In which of your outlet(s) would you use this type of product?

____

____

____

____

C5.2 For which meal period(s) would this product be most suitable?
PLEASE CIRCLE THE CHOSEN NUMBER(S).

1. Breakfast
2. Lunch
3. Dinner
4. Supper

C5.3 Could you tell me how you would rate this product?

a) Poor value for money ____:____:____:____:____ Excellent value for money

b) No time saved ____:____:____:____:____ A great deal of time saved

c) Not versatile ____:____:____:____:____ Very versatile

d) Low quality ____:____:____:____:____ Very high quality

e) Never used it before ____:____:____:____:____ Used for many years

f) No need for product ____:____:____:____:____ Product is necessity

g) Have no knowledge of product ____:____:____:____:____ Great deal of knowledge of product

C5.4 How would you use this product, what cooking methods would you use and what types of customers would you expect to buy the dishes? (PLEASE USE THE TABLE BELOW.)

C5.4 How would you use this product?	Types of Customers who would buy the dishes		
a) Dish Type and b) Cooking Method	Age Group <20, 20-34, 35-49, 50-64, ≥65 years	Male/ Female M/F	Category of Customer* 1 2 3 4 5 6

* Category of Customer Type

1. Business people.
2. Families.
3. Shoppers.
4. People out for a social occasion/celebrating.
5. Regular customers not described by other terms here.
6. Mixture not clearly defined.

C5.5 What demand for dishes made from this product would you expect?

No demand for dishes ___:____:____:____:____ Very high demand for dishes

C5.6 How do you rate the risk in using this product?

Type of Risk expected in using the product	Degree of risk
1. too high use of one piece of equipment;	No risk ____:____:____:____:____ Very high risk
2. increased storage capacity required;	No risk ____:____:____:____:____ Very high risk
3. increased staff costs;	No risk ____:____:____:____:____ Very high risk
4. chefs' skills reduced;	No risk ____:____:____:____:____ Very high risk
5. poor peer recognition;	No risk ____:____:____:____:____ Very high risk
6. failure of the product in the marketplace;	No risk ____:____:____:____:____ Very high risk
7. high financial losses;	No risk ____:____:____:____:____ Very high risk
8. food safety risk.	No risk ____:____:____:____:____ Very high risk

C5.7 How interested are you in giving this product a trial?

Not interested ____:____:____:____:____ Very interested

C5.8 How do you rate the flavour combination suggested?

Not interested ____:____:____:____:____ Very interested

C5.9 What flavour combination would you prefer? Your suggestions will be most helpful.

____

C5.10 Do you see this product as (PLEASE CIRCLE THE RELEVANT NUMBER):

1. an innovation;
2. a duplicate of products already available;
3. an improvement on products already available;
4. an adaptation of products already available;
5. an extension of a line of products already available?

SECTION D: CONCEPT SUMMARY
INTERVIEWER TO EXPLAIN AND RESPONDENT TO FILL OUT.

Do you have any more comments to make about these products?
D1.1 What do you like about them?

1. Tender Beef in Thin Slices____

____

2. Flavoured Pickled Beef____

____

3. Fricadelle - The Alternative Burger____

____

4. Coated Beef Product____

____

5. Pre-cooked Meat Loaf____

____

D1.2 Is there anything you do not like about them?

1. Tender Beef in Thin Slices____

____

2. Flavoured Pickled Beef____

____

3. Fricadelle - The Alternative Burger____

____

4. Coated Beef Product____

____

5. Pre-cooked Meat Loaf____

____

D1.3 Are there any other aspects of the product ideas which you think should be rated? Earlier we covered value for money, time saved and so on, is there anything else that you consider is important which you think should have been rated?

IF YES PLEASE AID THE RESPONDENT IN LABELLING THE RATING SCALE(S) AND ASK THE RESPONDENT TO RATE THE PRODUCT IDEAS.

Product Concept Number	Ratings for other aspects of the product. Please label the opposite ends of each scale and give a rating for the selected aspect of the product which you think should be rated.
	___:___:___:___:___
	___:___:___:___:___
	___:___:___:___:___
	___:___:___:___:___
	___:___:___:___:___
	___:___:___:___:___

D1.4 Have you been offered similar products before?
If so what was your response?

INTERVIEWER TO FILL THIS OUT.

PLEASE ASK THE RESPONDENTS TO NAME ANY COMPARABLE PRODUCTS AND SAY WHAT THEIR RESPONSE WAS TO EACH PRODUCT, WHETHER POSITIVE OR NEGATIVE, WITH REASONS.

Product Concept	Name of Comparable Product	Response (Positive/Negative)

IF THE RESPONDENT HAS TRIED THE PRODUCT ASK WHETHER THE PRODUCT WAS ACCEPTED OR REJECTED AND THEN REQUEST THAT HE/SHE COMPLETE THE APPROPRIATE ADOPTION/REJECTION FORM. USE SHOWCARD LS TO ASSIST THE CHEF IN THE USE OF THE SCALE.

D1.5 COMPARABLE PRODUCT FORM: REJECTION/NEGATIVE RESPONSE

Product Name ____________________ **Form e.g. frozen** ______________________________

Brief Description____

____

Seen/offered Y/N______ **Tried/Trial Y/N** __________ **Date/Year** ___________

Purpose Purchased/Dish Type _________________

R.	Reasons for rejection/negative preconception	Strongly Disagree	Disagree	Don't Know	Agree	Strongly Agree
R1.	The product was of poor quality.	1	2	3	4	5
R2.	There was not enough meat in the product.	1	2	3	4	5
R3.	The price of the product was too high.	1	2	3	4	5
R4.	The product did not give value for money.	1	2	3	4	5
R5.	The quality of the product was inconsistent.	1	2	3	4	5
R6.	There were too many products like this one already on the market.	1	2	3	4	5
R7.	There were problems in using the product.	1	2	3	4	5
R8.	The product fell apart.	1	2	3	4	5
R9.	There was high wastage with the product.	1	2	3	4	5
R10.	The batch size was too large.	1	2	3	4	5
R11.	There were storage problems with the product.	1	2	3	4	5
R12.	The product did not save preparation time.	1	2	3	4	5
R13.	The product did not save cooking time.	1	2	3	4	5
R14.	The product did not save labour.	1	2	3	4	5
R15.	The product needed more equipment to use.	1	2	3	4	5
R16.	Customers would not buy the dish.	1	2	3	4	5
R17.	The product was not versatile enough	1	2	3	4	5
R18.	The supplier was unsatisfactory.	1	2	3	4	5
R19.	Other reason(s) (please specify)	1	2	3	4	5

D1.6 COMPARABLE PRODUCT FORM: ACCEPTANCE/ADOPTION

Product Name __________________ **Form e.g. frozen** ____________________

Brief Description____

____

Seen/offered Y/N______ **Tried/Trial Y/N** _________ **Date/Year** __________

Purpose Purchased/Dish Type ________________

A.	**Reasons for acceptance/ benefits of product**	**Strongly Disagree**	**Disagree**	**Don't Know**	**Agree**	**Strongly Agree**
A1.	The product was of good quality.	1	2	3	4	5
A2.	The product was offered at a fair price.	1	2	3	4	5
A3.	The product was of consistent quality.	1	2	3	4	5
A4.	The product was innovative.	1	2	3	4	5
A5.	The product was easy to use.	1	2	3	4	5
A6.	There was no wastage.	1	2	3	4	5
A7.	The batch size was ideal.	1	2	3	4	5
A8.	The product was easy to store.	1	2	3	4	5
A9.	The product saved time in preparation.	1	2	3	4	5
A10.	The product saved time in cooking.	1	2	3	4	5
A11.	The product saved labour.	1	2	3	4	5
A12.	The product required less equipment to use.	1	2	3	4	5
A13.	The product was very versatile.	1	2	3	4	5
A14.	The product was popular with customers.	1	2	3	4	5
A15.	Other reasons (please specify)	1	2	3	4	5
		1	2	3	4	5

INTERVIEWER TO READ AND FILL THIS OUT.

D1.7 **How much work do you consider has already been done on each of these products? (where work done refers to work you could do yourself, e.g. cutting portions of steak from the whole muscle)**

Please would you rate each of the five products on a scale of 1 - 10 where: (SHOWCARD 5)

1 represents the raw product with no work done on it.

10 represents the pre-cooked product which is ready to serve, i.e. the product has had all the work done including all necessary preparation and cooking.

Product Concept		PLEASE CIRCLE THE APPROPRIATE RATING FOR EACH PRODUCT ON THE SCALE OF 1 - 10 AS DESCRIBED ABOVE.
1.	Tender Beef in Thin Slices	Raw 1 2 3 4 5 6 7 8 9 10 Pre-cooked
2.	Flavoured Pickled Beef	Raw 1 2 3 4 5 6 7 8 9 10 Pre-cooked
3.	Fricadelle - The Alternative Burger	Raw 1 2 3 4 5 6 7 8 9 10 Pre-cooked
4.	Coated Beef Product	Raw 1 2 3 4 5 6 7 8 9 10 Pre-cooked
5.	Pre-cooked Meat Loaf	Raw 1 2 3 4 5 6 7 8 9 10 Pre-cooked

SECTION E: CHEF DEMOGRAPHICS

INTERVIEWER TO FILL THIS SECTION OUT

E1. **An essential part of this research is to have a profile of the menu planning decision makers/chefs. Of course the answers will be kept confidential.**

PLEASE ENCIRCLE THE CORRECT CODE ADJACENT TO THE ANSWER FOR ALL PARTS OF THIS QUESTION.

a)	To which age group do you belong? (SHOWCARD 6)		Code
	i)	< 25 years	1
	ii)	25-34 years	2
	iii)	35-44 years	3
	iv)	45-54 years	4
	v)	55-64 years	5

b) What qualifications do you have? (SHOWCARD 7)	Subject (if relevant) Interviewer to ask for *	Country of qualification	Code
City and Guilds 151			1
City and Guilds 152			2
Trade Certificate in Cookery			3
Advanced Certificate *			4
Associate Diploma *			5
Diploma *			6
Bachelor's Degree *			7
Other (please specify) *			8
No formal qualification			9

c) What experience have you had as a chef? (SHOWCARD 8)	Years Experience
Never worked as a chef **INTERVIEWER TO RECORD OTHER RELEVANT EXPERIENCE**	
Apprentice Cook	
Brigade Chef	
Head Chef/Executive Chef **CIRCLE WHICH ONE IS RELEVANT**	

d) In how many overseas countries have you worked? __________

e) In how many Australian States have you worked outside Victoria? ________

f) Are you a member of any professional associations? (SHOWCARD 9)	Code
Australian Guild of Professional Cooks	1
Chain de Rôtisseur	2
Tôque Blanche	3
Catering Institute of Australia	4
Others (please specify)	5
None	6

E2. INTERVIEWER TO FILL OUT ONE SET OF COLUMNS (LUNCH AND DINNER) FOR EACH OUTLET.
NOTE: THE CHEF MAY NOT BE ABLE TO DESCRIBE THE CUSTOMERS FOR ROOM SERVICE.

How would you describe your customers? Do they differ for lunch and dinner?

How would you describe your customers?	Outlet No.______		Outlet No.____		Outlet No.____	
	Lunch	Dinner	Lunch	Dinner	Lunch	Dinner
	Code	Code	Code	Code	Code	Code
a) What is the most representative age range? (SHOWCARD 10)						
< 20 years	1	1	1	1	1	1
20-34 years	2	2	2	2	2	2
35-49 years	3	3	3	3	3	3
50-64 years	4	4	4	4	4	4
≥ 65 years	5	5	5	5	5	5
b) Are your customers? (SHOWCARD 11)						
mostly male	1	1	1	1	1	1
mostly female	2	2	2	2	2	2
approx. equal numbers of males and females	3	3	3	3	3	3
c) Are your customers mostly? (SHOWCARD 12)						
business people	1	1	1	1	1	1
families	2	2	2	2	2	2
shoppers	3	3	3	3	3	3
people celebrating/out for a social occasion	4	4	4	4	4	4
regular customers not described above	5	5	5	5	5	5
mixture not clearly defined	6	6	6	6	6	6

FURTHER TABLES WERE PROVIDED FOR OTHER OUTLETS CONTINUED

THE MENU

Rather than waste your time asking you about what is on your menu(s) could I either have a copy of your menu(s) or, if you do not have one to spare, could I copy the dish names and prices from the menu(s) for my records?

THE LARGER HOTELS MAY HAVE PRINTED MENUS. MOST WILL HAVE BLACKBOARD MENUS. PLEASE ENSURE THAT IF THE CHEF DOES NOT HAVE TIME TO GIVE YOU COPIES OF THE MENUS THAT SOME ARRANGEMENT IS MADE FOR COPIES OF THE MENUS TO BE COLLECTED OR POSTED TO THE OFFICE.

Outlet Name ______________________________

Entrée Name	Entrée Price $	Main Course Name	Main Course Price $

FURTHER TABLES WERE PROVIDED FOR THE MENUS OF OTHER OUTLETS

APPENDIX 16B: SHOWCARDS FOR SURVEY 1

SHOWCARD LS

Strongly Disagree	1
Disagree	2
Don't Know	3
Agree	4
Strongly Agree	5

****

SHOWCARD SD

Please mark the scale with an -X-

For example to indicate the importance of a product benefit:

not important ____:__X__:____:____:____ extremely important

This product benefit is of little importance to you.

****

SHOWCARD 1

What is the type of foodservice outlet?

Foodservice Outlets for Hotels and Motels (with > 1 Foodservice Outlet)

1. Fine Dining (up-market/full menu)
2. General Restaurant (mid-market/full menu)
3. Coffee Shop/Family Restaurant (popular/full menu)
4. Specialised Restaurant/Food Court (up-market/mid-market/popular/specialised menu)
5. Functions/Banqueting (up-market/mid-market/popular/full menu)
6. Bistro (mid-market/popular/limited menu)
7. Staff Canteen (economy/limited menu)
8. Room Service (full menu)
9. Public Bar Counter Meals (economy/limited menu)
10. Vending (limited menu)

****

SHOWCARD 2

Foodservice Outlets for Hotels and Motels (with 1 Foodservice Outlet)

1. Bistro (mid-market/popular/limited menu)
2. Bistro and Counter Meals
   (mid-market/popular/limited menu)
3. Dining Room (mid-market/popular/full menu)

****

SHOWCARD 3

Do you offer any of the following through this outlet?

1. Breakfast
2. Lunch
3. Dinner
4. Supper

****

SHOWCARD 4

Personnel

1. Executive Chef
2. Head Chef
3. Sous Chef(s)
4. Maître D'Hôtel
5. Service Staff
6. Kitchen Staff
7. Food and Beverage Manager
8. General Manager
9. Assistant Manager(s)
10. Chef/Owner Operator
11. Owner Operator
12. Catering Manager
13. Purchasing Officer
14. Food Committee
15. Managing Director
16. Board of Directors
17. Head Office Staff
18. Others (please specify)

****

SHOWCARD 5

Rating Scale 1 -10 where:

1 represents the raw beef product with no work done on it.

10 represents the pre-cooked beef product which is ready to serve, i.e. the product has had all the work done including all necessary preparation and cooking.

Raw 1 2 3 4 5 6 7 8 9 10 Pre-cooked

****

SHOWCARD 6

Age Group

1. < 25 years
2. 25-34 years
3. 35-44 years
4. 45-54 years
5. 55-64 years

****

SHOWCARD 7

Qualifications

1. City and Guilds 151
2. City and Guilds 152
3. Trade Certificate in Cookery
4. Advanced Certificate
5. Associate Diploma
6. Diploma
7. Bachelor's Degree
8. Other (please specify)
9. No formal qualification

****

SHOWCARD 8

Experience as a Chef

1. Never worked as a chef
2. Apprentice Cook
3. Brigade Chef
8. Head Chef/Executive Chef

****

SHOWCARD 9

Professional Associations

1. Australian Guild of Professional Cooks
2. Chain de Rôtisseur
3. Tôque Blanche
4. Catering Institute of Australia
5. Others (please specify)
6. None

****

SHOWCARD 10

Customers Most Representative Age Range

1. $<$ 20 years
2. 20-34 years
3. 35-49 years
4. 50-64 years
5. $\geqslant$ 65 years

****

SHOWCARD 11

Mix of Male and Female Customers?

1. mostly male
2. mostly female
3. approx. equal numbers of males and females

****

SHOWCARD 12

Type of Customers

1. business people
2. families
3. shoppers
4. people celebrating/out for a social occasion
5. regular customers not described above
6. mixture not clearly defined

****

SHOWCARD 13

WHEN YOU REVISE YOUR MENU(S) DO YOU:

1. completely revise the whole menu changing over half the dishes (even if slightly);
2. revise the menu conservatively, keeping over half of the dishes (the best sellers) and changing other dishes - that is do a re-vamp;
3. revise the menu as in 1 and in between the major changes introduce new dishes and specials to provide additional variety (i.e. maintain the menu);
4. revise the menu as in 2 and in between the major changes introduce new dishes and specials to provide additional variety (i.e. maintain the menu);
5. maintain the existing menu by introducing new dishes and specials at intervals but never drastically changing it.
6. never change the menu.

****

SHOWCARD 14

REVISION OR REVAMP OF THE MENU

How often do you revise your menu?

1. at least once every 3 months
2. once every 3 - 5 months
3. once every 6 months - one year
4. less than once a year

****

INTRODUCTION OF NEW DISHES OR SPECIALS

How often do you introduce new dishes or specials?

1. every day/more than once a week
2. about once a week
3. about once a fortnight
4. about once a month
5. less than once a month

****

SHOWCARD 15

Number of Ingredients/Products

1. 0 - 10
2. 11 - 20
3. 21 - 30
4. 31 - 40
5. > 40

****

SHOWCARD 16

When I use a new product for the first time

a) I have usually known about the product for some time before I have tried it.

b) I thought of a way of using the product when I first saw it or heard about it.

c) I usually know what I need and have searched for the product, trying to find a supplier.

****

SHOWCARD 17

Suppliers

1. Butcher
2. Wholesaler
3. Distributor
4. Meat/Food Processor

****

SHOWCARD 18

For new beef products do you stay with the same supplier?

1. Never
2. Occasionally
3. Regularly
4. Always

****

SHOWCARD 19

Product Benefits

i) low cost

ii) value for money

iii) to enable the release of labour for more value-added purposes

iv) to enable time to be saved

v) to enable the release of equipment to be used for more value-added purposes

vi) to enable a large number of meals to be served efficiently

vii) quality for the purpose (taste, textural characteristics, colour)

viii) to satisfy customer demand

ix) ease of storage

x) ease of preparation

xi) ease of cooking

xii) ease of reheating

xiii) consistent quality

xiv) provision of information about use of the product

xv) expectation of a long product life cycle

xvi) batch size

xvii) minimal wastage

xviii) flexibility/versatility in use

Other(s) Please specify

****

SHOWCARD 20

Personnel/customers

Executive Chef

Head Chef

Sous Chef(s)

Maître D'Hôtel

Service Staff

Kitchen Staff

Food and Beverage Manager

General Manager

Assistant Manager(s)

Chef/Owner Operator

Owner Operator

Catering Manager

Taste Panel

Food Committee

Managing Director

Board of Directors

Head Office Staff

Regular Customers (offered complimentary dishes)

Customers in the restaurant by offering the dish as a 'Special'.

Others (please specify)

****

SHOWCARD 21

INVOLVEMENT

Never involved 1 2 3 4 5 Always involved

****

SHOWCARD 22

INFLUENCE

Not influential 1 2 3 4 5 Very influential

****

SHOWCARD 23

Personnel

Executive Chef

Head Chef

Sous Chef(s)

Maître D'Hôtel

Service Staff

Kitchen Staff

Food and Beverage Manager

General Manager

Assistant Manager(s)

Chef/Owner Operator

Owner Operator

Catering Manager

Purchasing Officer

Food Committee

Managing Director

Board of Directors

Head Office Staff

Others (please specify)

APPENDIX 17

NOTES FOR INTERVIEWERS IN SURVEYS 1 AND 2

APPENDIX 17A: THE PERSONAL INTERVIEW

When you first meet the chef put him/her at ease with a friendly manner but be businesslike, do not waste time, start the interview as soon as possible to ensure that all the questions are answered.

1. Ask the questions in the order given. The order has been carefully established and a different order could change the responses.

2. Use the exact wording of the questions as they are written. Please do not change the wording as this can change the meaning of the questions. It is important that every chef has the same understanding of the questions. This is best achieved by using exactly the same wording of questions for each chef.

3. Do not lead the respondents to give the answers you expect. The answers must be theirs.

4. Even if you do not agree with what the respondents are saying you must not show that you disagree.

5. Be neutral. Do not enter into discussion or argument. You may explain the questions as instructed in the Notes or in the Questionnaire itself but do not say anything which could bias the answers given by the respondents.

6. Keep the interview moving forward, do not spend too long on any single question.

7. Pace the interview so that you complete the questionnaire in the time the chef has allocated for you.

8. Ensure that the respondent answers all the questions.

Thank the respondent for his/her time once the interview has been completed and you have checked that you have responses for all the questions.

****

APPENDIX 17B: NOTES FOR INTERVIEWERS: SURVEY 1

1. PURPOSE OF THE INTERVIEWS

This is part of a research programme funded by the Meat Research Corporation, the Australian Meat and Live-stock Corporation and some of the work is being done through the Food Research Institute at Werribee. The researcher is undertaking a study of the product adoption process for new beef products by foodservice. Exploratory market research has already been done and the product development process has reached the stage where five product ideas have been expanded into product concepts to be tested on chefs/menu planning decision makers in the target market segment, Hotels and Motels. The best two products, predicted from the results of this questionnaire will be developed. Two respected Melbourne companies will be making the prototypes.

This is the first questionnaire and the chefs will be contacted again with the results and an offer to 'trial' the two products developed. It is important, therefore, that the chefs have this explained to them and so will expect to be contacted again in about two months time. This will have been done when the interview was arranged but it should be mentioned again at the interview.

2. MARKET SEGMENT AND MARKET STRATA

There are three market strata being examined:

1. Hotels and Motels with only one foodservice outlet.
2. Hotels and Motels with 2-3 foodservice outlets.
3. Hotels and Motels with 4 or more foodservice outlets.

3. SOME DEFINITIONS

3.1 **Foodservice Operation** - this is the complete business operation, relating to food, of the hotel or motel.

3.2 **Foodservice Outlet** - this is defined by menu; when a foodservice operation has several different menus all offered at the same time then each menu represents one foodservice outlet. For some operations you will find that one menu is served in several rooms, this represents one outlet only. For example a hotel may offer meals in a bistro and counter meals in the public bar. If the menus are different then this operation has two outlets. If the menus are the same then for the purposes of this research the operation is classed as having one outlet only.

3.3 Group/Chain - this may be a corporation like the Southern Pacific Hotel Corporation (which has The ParkRoyal Collection, Centra, Travelodge and THC) or it may be a company like the Australian Pub Company.

4. USE OF SHOWCARDS

When using showcards record the information on the questionnaire as requested, usually you will be asked to circle a code, it will not be necessary to write the answer down in full.

5. NOTES ON THE QUESTIONS

Chefs are very busy people and even though they make appointments they are often called upon to do other things at the same time, e.g. answer the telephone, sign dockets and answer questions from staff. They may even be called away and not be able to continue the interview at that time. Be prepared to wait in order to complete the questionnaire. Few chefs will ever give you more than an hour. Most will allow 30 - 45 minutes only. The questionnaire can be completed in 20-25 minutes but that is the minimum.

A OUTLETS

The name of the outlet may be a restaurant name or simply the type of outlet if it does not have a special name, e.g. Public Bar.
Record the number of the outlet type from Showcards 1 and 2. Use Showcard 1 for all operations with more than one outlet.
Record the numbers of the meal periods (Showcard 3) for the trading pattern and circle the busiest period.
Maximum seating capacity refers to the total number of people who can be seated in the restaurant at any one time.

B NEW BEEF PRODUCT DECISIONS

Do not spend too long on this section as most chefs are very busy and will not have time to complete the questionnaire if they linger over this.

C PRODUCT CONCEPTS

It is best to read each product concept quickly to the chef as he/she is given the questions to answer. Do this in a conversational way to put the chef in the picture. Then allow the chef to answer the questions explaining each question as the first product concept is considered. The first product concept takes the longest, the others are relatively quick, unless the chef wants to explain what he/she is putting - and those who have time like to do that.
Use **SHOWCARD SD** to explain how to rate the product.
Cooking Method here refers to any method of cooking or reheating, e.g. grilling, roasting etc.
Dish Type refers to the way a product is offered, e.g. it may be pan fried and offered with a sauce, it may be grilled and served in a long roll with a salad and french fires etc.
Risks are often involved when a new product is used for the first time. They may differ from one operation to another when the constraints on the chefs are different. They also reflect the attitudes of chefs to new products.

D CONCEPT SUMMARY

This is to allow the chefs to express their own views outside the constraints of the closed questions. They may not have anything to say about every single product but encourage them to express their feelings.
Comparable products, which the chef has tried, and which he/she remembers sufficiently well to complete the rejection or adoption forms will provide important information about the things other manufacturers have done correctly, or otherwise, in the eyes of the chefs. Most chefs will probably only think of one product.
Rating the product on how much work has already been done may need an illustration, e.g. a score of 1 may represent the whole muscle, like a full porterhouse, with very little work being done on it while a score of 10 may be a pre-cooked dish like a casserole ready to reheat and serve, requiring no additional work, apart from reheating.

E CHEF DEMOGRAPHICS

This section deals with the backgrounds of the chefs and the customer types using the foodservice operation.
Most chefs will have qualifications 1,2 or 3 but if they also have other qualifications please ask in what subject, e.g. catering.

6. THE MENU

The recording of menu details is important, the names of entree dishes and main course dishes with relevant prices are required. Most operations will use blackboard menus so these will need to be copied, with permission. Function menus are often printed so copies may be available for you to take away.
Brigade chef refers to a chef working under a Head Chef or Executive Chef.

APPENDIX 17C: NOTES FOR INTERVIEWERS: SURVEY 2

BACKGROUND

1. PURPOSE OF THE INTERVIEWS

This is part of a research programme funded by the Meat Research Corporation, the Australian Meat and Live-stock Corporation and some of the work is being done through the Food Research Institute at Werribee. The researcher is undertaking a study of the product adoption process for new beef products by foodservice. Exploratory market research has already been done and the product development process has reached the stage where two of the five product concepts have been selected for development as a result of the survey carried out earlier this year which involved personal interviews with chefs/menu planning decision makers in the target market segment, Hotels and Motels. The best two products, predicted from the results of this questionnaire were the Fricadelle - the Alternative Burger and Tender Beef in Thin Slices. Two respected Melbourne companies will be making the prototypes.

All of the chefs/menu planning decision makers, who were interviewed in the last survey, have received a letter thanking them for their participation and informing them that they will be contacted again with a request for another interview in which they will be told which of the five product concepts are being developed and asked some more questions about what things are important to them when they adopt new beef products for their menus. In addition they will be asked if they are willing to give either or both of the products a trial.

2. MARKET SEGMENT AND MARKET STRATA

There are three market strata being examined:
1. Hotels and Motels with only one foodservice outlet.
2. Hotels and Motels with 2-4 foodservice outlets.
3. Hotels and Motels with >5 or more foodservice outlets.

3. SOME DEFINITIONS

3.1 **Foodservice Operation** - this is the complete business operation, relating to food, of the hotel or motel.

3.2 **Foodservice Outlet** - this is defined by menu; when a foodservice operation has several different menus all offered at the same time then each menu represents one foodservice outlet. For some operations you will find that one menu is served in several rooms, this represents one outlet only. For example a hotel may offer meals in a bistro and counter meals in the public bar. If the menus are different then this operation has two outlets. If the menus are the same then for the purposes of this research the operation is classed as having one outlet only.

3.3 **Group/Chain** - this may be a corporation like the Southern Pacific Hotel Corporation (which has The ParkRoyal Collection, Centra, Travelodge and THC) or it may be a company like the Australian Pub Company.

3.4 **Menu Analysis**
Every operation will employ some form of menu analysis, many will not be sophisticated. For example many operations still do not record how many of each menu item is sold, the chefs know the batch sizes they have made up and so sales are known roughly but not documented in a formal way. This should be counted as using sales records, though informal, as the information is still used to assess the effectiveness of the menu.

3.5 Popularity Index

This is calculated for dishes competing within a group.

Popularity Index of an Item (Dish) (expressed as a %)

$$= \frac{\text{Number (of the item) Sold}}{\text{Total Number (of items) sold in Group}} \times 100$$

3.6 Menu Engineering

Some chefs/menu planning decision makers may want you to explain what menu engineering involves. If they do not know what it is then they obviously do not use it, but you should explain it very briefly to them if requested to do so.

This was first developed by Kasavana and Smith[3]. It involves showing the results in a graphical form. The menu mix/sales percentages are plotted against the contribution margin for each of the menu items within a group. The contribution margin may be calculated by subtracting the food cost from the sales price (gross profit). The part of the matrix in which the menu item falls identifies it as a Star, Plowhorse, Puzzle or Dog. Stars have high sales percentages and high contribution margins. Plowhorses have high sales percentages and lower contribution margins. Puzzles have high contribution margins and low sales percentages and Dogs have low sales percentages and low contribution margins.

4. USE OF SHOWCARDS

When using showcards record the information on the questionnaire as requested, usually you will be asked to circle a code, it will not be necessary to write the answer down in full. Three additional showcards are provided with details of the three product examples used in question 5. These were the product concept descriptions for the Tender Beef in Thin Slices, the Fricadelle, and the Pre-cooked Meat Loaf, shown to the chefs/menu planning decision makers in the previous survey and are included with the showcards if the chefs/menu planning decision makers need to be reminded of the product concepts.

5. LENGTH OF THE INTERVIEW

Chefs are very busy people and even though they make appointments they are often called upon to do other things at the same time, e.g. answer the telephone, sign dockets and answer questions from staff. They may even be called away and not be able to continue the interview at that time. Be prepared to wait in order to complete the questionnaire. Few chefs will ever give you more than an hour. Most will allow 30 - 45 minutes only. The questionnaire can be completed in 30-35 minutes if the operation is not complex and the chef/menu planning decision maker does not want to elaborate at length on his/her responses. You should try to keep the interview moving through the questionnaire in order to ensure that all the questions are answered.

6. THE PERSON YOU INTERVIEW SHOULD BE THE SAME AS FOR THE PREVIOUS INTERVIEW

This is important as the responses given in the previous survey are linked. If the person you need to interview is no longer employed at the operation then you should record this and note the name of the new Executive/Head Chef. We shall try to interview all of the previous respondents before we start interviewing any new ones.

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[3] Kasavana, M. L., and D. I. Smith. 1982. *Menu engineering: a practical guide to menu analysis.* Lancing, Michigan: Hospitality Publishers.

NOTES ON THE QUESTIONNAIRE

Please **write the details onto the front sheet before you go to the interview.** A copy of the front page of the previous interview is provided for you with all the relevant information. A list of the outlet types is also provided with these notes (Appendix A) for your information.

Ask the respondent to confirm that the information you have is still correct. Over the past few months there may be new ownership or there may have been changes to the outlets, either in type or name. These changes should be recorded. In some cases the hotel may even have changed its name.

Questions

1. **Menu Analysis**
   Use the Showcards provided but read the methods of menu analysis to the respondent and explain what each one is if asked.

2. **Revision of the Menu**
   Once again read the alternatives to the respondent and use the Showcards.
   Make sure that you **label the outlet columns before you start the interview.** You will then only need to make amendments if there have been any changes to the outlets since the last interview.

3. **Menu Changes and the Purchase of New Products**
   Read the question to the respondent and use a new column in the table for each outlet.
   You may be asked to explain what changing of ingredients means. It could involve a change due to price increases, dissatisfaction with a particular brand or supplier, a change in the recipe or other similar reason.
   It is important to ask whether the responses given are typical as occasionally the most recent experience may be an exception.

4. **Sources of Information for New Beef Products**
   The respondents may have some difficulty in understanding the frequency of use of the sources of information. It refers to the % of times when sources of information are used. If, for example, trade journals are read every week and are the most frequently used source then that would count as "nearly all the time 81 - 100%" The frequencies for the use of the other sources could then be based on this, so, for example, if the trade shows are attended only twice a year, then, compared to the reading of trade journals the frequency would be "infrequently 0 - 20%".

   Part 4.3 deals with the influence of the source and so if trade shows are the most influential, regardless of the frequency of use, the score would be "highly influential". Indeed, for some, trade journals may not be influential at all despite the fact that they may be read frequently.

5. **Benefits which are looked for when making a decision to Try a New Beef Product**
   There are three tables here for three different types of product. The benefits which the chefs/menu planning decision makers look for may be quite different for these three types.
   When the five most important benefits are selected check that the chef/menu planning decision maker originally gave them high scores. The points allocated must total 100, so check that is the case before moving on to the next part. They need not be listed in order of importance as the scores given indicate that. The five selected benefits need only be identified by the alphabetical letters.

6. **Stages in Menu Planning**
When you have ascertained which stages in menu planning the respondent uses frequently you then only need read out the stages for the respondent to give you the frequency (with which he/she uses the stages) and the number of years for which they have been used. This considerably shortens the time spent on the question.

7. **Sequence for the use of Stages in Menu Planning.**
For this question you should give the respondent the cards which correspond to the stages identified in question 6. When these have been placed in sequence note the number sequence in the table and then ask the respondent if the sequence changes for a), b) and finally c) (ask these one at a time and note the new sequence before going on to the next one). Provide the respondent with the extra cards of the stages not previously identified in case more stages are involved and the respondent wants to include them.

8. **Personnel involved in Dish Evaluation and in Writing Purchasing Specifications.**
Again, once the respondent has identified who is involved, the names of those persons only need be read out for the respondent to score the degree of involvement and extent of influence. However, do check if there are personnel who have influence but are not involved.

9. **Suppliers**
Note that the question refers to the suppliers used for the three different types of products: raw beef products, prepared ready-to-cook processed beef products and pre-cooked beef products.

Product Trials
This is included to remind the chef/menu planning decision makers that the products will be available for trials and to ascertain which ones they are interested in and the best times for delivery of the samples.

****

APPENDIX A

Foodservice Outlets for Hotels and Motels (with 1 Foodservice Outlet)

1. Bistro (mid-market/popular/limited menu)
2. Bistro and Counter Meals (mid-market/popular/limited menu)
3. Dining Room (mid-market/popular/full menu)

Foodservice Outlets for Hotels and Motels (with > 1 Foodservice Outlet)

1. Fine Dining (up-market/full menu)
2. General Restaurant (mid-market/full menu)
3. Coffee Shop/Family Restaurant (popular/full menu)
4. Specialised Restaurant/Food Court (up-market/mid-market/popular/specialised menu)
5. Functions/Banqueting (up-market/mid-market/popular/full menu)
6. Bistro (mid-market/popular/limited menu)
7. Staff Canteen (economy/limited menu)
8. Room Service (full menu)
9. Public Bar Counter Meals (economy/limited menu)
10. Vending (limited menu)

APPENDIX 18

QUESTIONNAIRE FOR SURVEY 2 WITH ACCOMPANYING SHOWCARDS

New Beef Product Adoption Process Survey Stage 2

Foodservice Operation Name____

Group/Chain Name____

Address ____

____

Telephone Number ____

Respondent's Name ____

Position ____

Interviewer ____

Date and Time of Interview_____________________________________

OUTLETS: INTERVIEWER TO CHECK THAT THESE AND THE ABOVE DETAILS ARE STILL CORRECT

Outlets	**Outlet Name**	**Outlet Type**
Outlet 01		
Outlet 02		
Outlet 03		
Outlet 04		

****

PRODUCT CONCEPTS

At the last interview you were asked five product concepts in order to help us select two for development.
The products which we talked about were tender beef in thin slices, flavoured pickled beef, fricadelle - the alternative burger, coated beef product and the pre-cooked meat loaf.

The two products in which there was most interest were:

1. Tender beef in thin slices
2. Fricadelle - the alternative burger

I would like to arrange to give you a sample of either one or both of them to carry out a trial as you expressed an interest at the previous interview.

INTERVIEWER TO CIRCLE THE NUMBER(S) OF THE PRODUCT(S) TO BE GIVEN A TRIAL

Before we discuss these particular new products I would, first of all, like to ask you some general questions about how you set about finding, testing and adopting new products.

1. **How often do you use each of the following methods of menu analysis for reviewing the effectiveness of your menu(s)? (SHOWCARDS 1 & 2)**

INTERVIEWER TO READ TO THE RESPONDENT EACH OF THE METHODS OF MENU ANALYSIS AND ASK THE RESPONDENT TO SELECT THE FREQUENCY WITH WHICH HE/SHE USES EACH METHOD. INTERVIEWER TO CIRCLE THE CODE FOR THE RESPONDENT'S ANSWER.

Methods of Menu Analysis (SHOWCARD 1)	Frequency with which the Method of Menu Analysis is Used (SHOWCARD 2) (As a Percentage of the Times when Menu Analysis is Used) INTERVIEWER TO CIRCLE THE RELEVANT CODES				
	Infrequently 0-20%	21-40%	41-60%	61-80%	Nearly all the time 81-100%
(1) Subjective evaluation based on experience	1	2	3	4	5
(2) Sales records, number of sales of each menu item	1	2	3	4	5
(3) Food Cost Percentage	1	2	3	4	5
(4) Calculation of Popularity Indexes of menu items	1	2	3	4	5
(5) Menu Engineering (menu mix/sales percentages vs. contribution margin)	1	2	3	4	5
(6) Customer feedback	1	2	3	4	5
(7) Other methods, please specify.	1	2	3	4	5

2. When you revise your menu(s) do you: (SHOWCARD 3)?

INTERVIEWER TO READ THE QUESTION AND FOR EACH PART CIRCLE THE CODE FOR THE RESPONDENT'S ANSWER. USE A NEW COLUMN FOR EACH OUTLET. AFTER 2.1 GO TO 2.2/2.3 AS INDICATED.

2.1	When you revise your menu(s) do you? (SHOWCARD 3)	Outlet No. 01 Type________	Outlet No. 02 Type________
(1)	completely revise the whole menu changing over half the dishes (even if slightly);	1 go to 2.2	1 go to 2.2
(2)	revise the menu conservatively, keeping over half of the dishes (the best sellers), and changing other dishes - that is do a re-vamp;	2 go to 2.2	2 go to 2.2
(3)	revise the menu as in (1) above and, in between the major changes, introduce new dishes and specials to provide additional variety (this may take the form of a 'Specials' menu);	3 go to 2.2 then 2.3	3 go to 2.2 then 2.3
(4)	revise the menu as in (2) above and, in between the major changes, introduce new dishes and specials to provide additional variety (this may take the form of a 'Specials' menu);	4 go to 2.2 then 2.3	4 go to 2.2 then 2.3
(5)	maintain the existing menu by introducing new dishes and specials at intervals (this may take the form of a 'Specials' menu) but never drastically changing it;	5 go to 2.3	5 go to 2.3
(6)	never change the menu.	6	6

2.2	How often do you revise the menu? (SHOWCARD 4)	Outlet No. 01 Type________	Outlet No. 02 Type________
(1)	at least once every three months	1	1
(2)	once every 4-6 months	2	2
(3)	once every 7-12 months	3	3
(4)	less frequently than (1), (2) or (3)	4	4

2.3	How often do you introduce new dishes or specials? (SHOWCARD 5)	Outlet No. 01 Type________	Outlet No. 02 Type________
(1)	every day/more than once a week	1	2
(2)	about once a week	2	2
(3)	about once a fortnight	3	3
(4)	about once a month	4	4
(5)	less than once a month	5	5

Additional tables were provided for operations with multiple outlets.

3. Frequency of menu changes and the purchase of new products. (SHOWCARD 6)

INTERVIEWER TO READ THE QUESTION AND FOR EACH PART CIRCLE THE CODE FOR THE RESPONDENT'S ANSWER. USE A NEW COLUMN FOR EACH OUTLET. NOTE TYPE OF MENU CHANGE FROM 2.1, RECORD AS (1), (2), (3), (4), (5) or (6).

Outlet No. 01 Type ____________		Outlet No. 02 Type ____________	
3.1 How many new ingredients/products (new to your operation) are you purchasing as a result of the latest menu change? (SHOWCARD 6) Type of Menu Change ________		3.1 How many new ingredients/ products (new to your operation) are you purchasing as a result of the latest menu change? (SHOWCARD 6) Type of Menu Change ________	
No. of New Ingredients/Products	Code	No. of New Ingredients/Products	Code
0 - 10	1	0 -10	1
11 - 20	2	11 - 20	2
21 - 30	3	21 - 30	3
31 - 40	4	31 - 40	4
>40	5	> 40	5
3.2 Is this typical?	Yes/No	3.2 Is this typical?	Yes/No
3.3 If not, what would you say is typical? (CODE AS FOR 3.1 ABOVE)	Code	3.3 If not, what would you say is typical? (CODE AS FOR 3.1 ABOVE)	Code
3.4 Even without a menu change you may have changed your ingredients. How many new ingredients or products have you purchased this way in the last month? (SHOWCARD 6)		3.4 Even without a menu change you may have changed your ingredients. How many new ingredients or products have you purchased this way in the last month? (SHOWCARD 6)	
No. of New Ingredients/Products	Code	No. of New Ingredients/Products	Code
0 - 10	1	0 - 10	1
11 - 20	2	11 - 20	2
21 - 30	3	21 - 30	3
31 - 40	4	31 - 40	4
>40	5	>40	5
3.5 Is this typical?	Yes/No	3.5 Is this typical?	Yes/No
3.6 If not, what would you say is typical? (CODE AS FOR 3.4 ABOVE)	CODE	3.6 If not, what would you say is typical? (CODE AS FOR 3.4 ABOVE)	CODE

Additional tables were provided for operations with multiple outlets.

INTERVIEWER TO ASK THE QUESTION AND CIRCLE THE CORRECT CODES FOR THE RESPONDENT'S ANSWER

4.1 What sources of information bring new beef products to your attention (i.e. beef products which are new to you or to your operation and which you subsequently try out with a view to using the product in your operation)? (SHOWCARD 7)

4.2 How frequently do you use each of these sources of information (as a % of the times you use sources of information)? (SHOWCARD 8)

Source of Information	**4.1 Use of Source of Information Yes/No 1/2**	**4.2 Frequency of Use of the Source of Information (as a % of the times you use sources of information)**				
		In-frequently 0-20%	**21-40%**	**41-60%**	**61-80%**	**Nearly all the time 81-100%**
1. food processing company representatives	1 2	1	1	2	3	4
2. sales representatives of distributors	1 2	1	2	3	4	5
3. persons in other foodservice operations	1 2	1	2	3	4	5
4. persons in your own foodservice operation	1 2	1	2	3	4	5
5. product literature from food processing company	1 2	1	2	3	4	5
6. articles in trade journals	1 2	1	2	3	4	5
7. business/magazine advertisements	1 2	1	2	3	4	5
8. trade shows	1 2	1	2	3	4	5
9. professional association gatherings/ meetings	1 2	1	2	3	4	5
10. suppliers' promotions	1 2	1	2	3	4	5
11. customer suggestions	1 2	1	2	3	4	5
12. others (please specify)	1 2	1	2	3	4	5

4.3 How influential are these sources of infonnation for persuading you to try new beef products?

INTERVIEWER TO ASK RESPONDENT TO FILL THIS OUT FOR HIMSELF/HERSELF

Source of Information	**4.2 Please place an X on the scale to indicate how influential each source of information is** **not influential___:___:___:___:___ highly influential**
1. food processing company representatives	not influential___:___:___:___:___ highly influential
2. sales representatives of distributors	not influential___:___:___:___:___ highly influential
3. persons in other foodservice operations	not influential___:___:___:___:___ highly influential
4. persons in your own foodservice operation	not influential___:___:___:___:___ highly influential
5. product literature from food processing company	not influential___:___:___:___:___ highly influential
6. articles in trade journals	not influential___:___:___:___:___ highly influential
7. business/magazine advertisements	not influential___:___:___:___:___ highly influential
8. trade shows	not influential___:___:___:___:___ highly influential
9. professional association gatherings/meetings	not influential___:___:___:___:___ highly influential
10. suppliers' promotions	not influential___:___:___:___:___ highly influential
11. customer suggestions	not influential___:___:___:___:___ highly influential
12. others (please specify)	not influential___:___:___:___:___ highly influential
	not influential___:___:___:___:___ highly influential
	not influential___:___:___:___:___ highly influential

INTERVIEWER TO READ QUESTION 5 TO THE RESPONDENT AND ALLOW THE RESPONDENT TO COMPLETE THE TABLES FOR 5.1, 5.2 AND 5.3 HIMSELF/HERSELF.

5. **When you make a decision to try a new beef product for a buying decision what product benefits do you look for in order to give the product a trial ? How important are these benefits?**

There are 3 product types to consider:

5.1 **New Raw Beef Products, e.g. Tender Beef in Thin Slices**
5.2 **New Prepared Ready-to-Cook Processed Beef Products, e.g Fricadelle**
5.3 **New Pre-cooked Beef Products, e.g. Pre-cooked Meat Loaf**

* **In parts 5.1.1, 5.2.1 and 5.3.1 You are asked to place an X on the scale to show the importance of each product benefit.**

* **In parts 5.1.2, 5.2.2 and 5.3.2 you are asked to rank the five most important product benefits and to indicate their relative importance by giving each a score so that the total of the five scores is 100.**

ASSIST THE RESPONDENT BY INDICATING THAT THE PRODUCT BENEFITS FOR WHICH HE/SHE PLACED AN X ON THE SCALE CLOSEST TO EXTREMELY IMPORTANT WOULD BE THE ONES FROM WHICH TO CHOOSE THE FIVE MOST IMPORTANT BENEFITS.

INTERVIEWER MAY NEED TO GUIDE THE RESPONDENT THROUGH 5.1 FIRST. IF YOU ARE ASKED TO GIVE AN EXAMPLE FOR 5.1.2 DO NOT NAME ANY PRODUCT BENEFITS JUST SAY THAT THE RESPONDENT CAN DIVIDE THE SCORES AS HE/SHE WISHES BETWEEN THE FIVE PRODUCT BENEFITS SELECTED. THE ONLY LIMIT IS THAT THE TOTAL MUST COME TO 100.

NOTE - PLEASE CHECK THAT THE TOTAL IS 100 BEFORE YOU GO ON TO THE NEXT PART.

5.1 New Raw Beef Products, e.g. Tender Beef in Thin Slices

Product Benefits **5.1.1 New Raw Beef Products, e.g. Tender Beef in Thin Slices**		**Please place an X on the scale to show the importance of each benefit** **not important ___:___:___:___:___ extremely important**
a)	low cost	not important ___:___:___:___:___ extremely important
b)	value for money	not important ___:___:___:___:___ extremely important
c)	to save labour	not important ___:___:___:___:___ extremely important
d)	to save time	not important ___:___:___:___:___ extremely important
e)	to save on equipment use	not important ___:___:___:___:___ extremely important
f)	to serve a large number of meals efficiently	not important ___:___:___:___:___ extremely important
g)	quality for the purpose (taste, texture, appearance)	not important ___:___:___:___:___ extremely important
h)	to satisfy customer demand	not important ___:___:___:___:___ extremely important
i)	ease of storage	not important ___:___:___:___:___ extremely important
j)	ease of preparation	not important ___:___:___:___:___ extremely important
k)	ease of cooking/reheating	not important ___:___:___:___:___ extremely important
l)	provision of information on product use	not important ___:___:___:___:___ extremely important
m)	a long product life cycle	not important ___:___:___:___:___ extremely important
n)	batch size	not important ___:___:___:___:___ extremely important
o)	minimal wastage	not important ___:___:___:___:___ extremely important
p)	flexibility/versatility in use	not important ___:___:___:___:___ extremely important

5.1.2 Please choose the five most important benefits and give each a score so that the total score for all five benefits is 100 points.

Product Benefit	**Points Allocated**
1.	
2.	
3.	
4.	
5.	
	Total = 100 points

5.2 New Prepared Ready-to-Cook Processed Beef Products, e.g. Fricadelle

Product Benefits **5.2.1 New Prepared Ready-to-Cook Processed Beef Products, e.g. Fricadelle**		**Please place an X on the scale to show how the importance of each benefit** **not important ____:____:____:____:____ extremely important**
a)	low cost	not important ____:____:____:____:____ extremely important
b)	value for money	not important ____:____:____:____:____ extremely important
c)	to save labour	not important ____:____:____:____:____ extremely important
d)	to save time	not important ____:____:____:____:____ extremely important
e)	to save on equipment use	not important ____:____:____:____:____ extremely important
f)	to serve a large number of meals efficiently	not important ____:____:____:____:____ extremely important
g)	quality for the purpose (taste, texture, appearance)	not important ____:____:____:____:____ extremely important
h)	to satisfy customer demand	not important ____:____:____:____:____ extremely important
i)	ease of storage	not important ____:____:____:____:____ extremely important
j)	ease of preparation	not important ____:____:____:____:____ extremely important
k)	ease of cooking/reheating	not important ____:____:____:____:____ extremely important
l)	provision of information on product use	not important ____:____:____:____:____ extremely important
m)	a long product life cycle	not important ____:____:____:____:____ extremely important
n)	batch size	not important ____:____:____:____:____ extremely important
o)	minimal wastage	not important ____:____:____:____:____ extremely important
p)	flexibility/versatility in use	not important ____:____:____:____:____ extremely important

5.2.2 Please choose the five most important benefits and give each a score so that the total score for all five benefits is 100 points.

Product Benefit	**Points Allocated**
1.	
2.	
3.	
4.	
5.	
	Total = 100 points

5.3 New Pre-cooked Beef Products, e.g. Meat Loaf

Product Benefits 5.3.1 New Pre-cooked Beef Products, e.g. Meat Loaf		Please place an X on the scale to show the importance of each benefit not important ____:____:____:____:____ extremely important
a)	low cost	not important ____:____:____:____:____ extremely important
b)	value for money	not important ____:____:____:____:____ extremely important
c)	to save labour	not important ____:____:____:____:____ extremely important
d)	to save time	not important ____:____:____:____:____ extremely important
e)	to save on equipment use	not important ____:____:____:____:____ extremely important
f)	to serve a large number of meals efficiently	not important ____:____:____:____:____ extremely important
g)	quality for the purpose (taste, texture, appearance)	not important ____:____:____:____:____ extremely important
h)	to satisfy customer demand	not important ____:____:____:____:____ extremely important
i)	ease of storage	not important ____:____:____:____:____ extremely important
j)	ease of preparation	not important ____:____:____:____:____ extremely important
k)	ease of cooking/reheating	not important ____:____:____:____:____ extremely important
l)	provision of information on product use	not important ____:____:____:____:____ extremely important
m)	a long product life cycle	not important ____:____:____:____:____ extremely important
n)	batch size	not important ____:____:____:____:____ extremely important
o)	minimal wastage	not important ____:____:____:____:____ extremely important
p)	flexibility/versatility in use	not important ____:____:____:____:____ extremely important

5.3.2 Please choose the five most important benefits and give each a score so that the total score for all five benefits is 100 points.

Product Benefit	Points Allocated
1.	
2.	
3.	
4.	
5.	
	Total = 100 points

INTERVIEWER TO READ THE QUESTION AND CIRCLE CODES FOR RESPONDENT'S ANSWERS

6. **When you plan a new menu, carry out a revision of an existing menu or introduce new dishes, what procedure do you use?**
6.1 **Which of the following stages do you use in the planning of new dishes for your menu(s)? (SHOWCARD 9)**
6.2 **How frequently do you use each of these stages? (SHOWCARD 10)**
6.3 **How long have you been using each of the stages (never, or approximate number of years)?**

The order in which the possible stages are presented is not necessarily sequential. You may not use every one of these stages, some stages may not be necessary every time or you may pass through some stages more than once, much depends upon the individual foodservice operation.

If there are any stages, which you use and which have not been listed, you may wish to add these in the spaces provided and rate them accordingly.

Stages in the planning of new dishes for the menu (Stages in menu planning) (SHOWCARD 9)	6.1 Use of Stages Yes/No 1/2	6.2 Frequency of Use of the Stage (as a % of the number of times you plan new dishes) (SHOWCARD 10)					6.3 No. Years used
		Infrequently 0 - 20%	21 - 40%	41 - 60%	61 - 80%	Nearly all the time 81 - 100%	
1. Ideas for New Dishes 472	1 2	1	2	3	4	5	
2. Choosing the best new dish ideas for testing 637	1 2	1	2	3	4	5	
3. Recipe Formulation (Standard Recipe) 803	1 2	1	2	3	4	5	
4. Choosing Ingredients (Ingredients/Products Selection) 919	1 2	1	2	3	4	5	
5. Testing Ingredients & Products (in Dish Trials) 064	1 2	1	2	3	4	5	
6. Recipe Testing (Dish Trials) 102	1 2	1	2	3	4	5	
7. Evaluating (judging) the Trial Dishes 004	1 2	1	2	3	4	5	
8. 'Make-or-Buy' Decisions 257	1 2	1	2	3	4	5	

Stages in the planning of new dishes for the menu (Stages in menu planning) (SHOWCARD 9)	6.1 Use of Stages Yes/No 1/2	6.2 Frequency of Use of the Stage (as a % of the number of times you plan new dishes) (SHOWCARD 10)					6.3 No. Years used
		Infrequently 0 - 20%	21 - 40%	41 - 60%	61 - 80%	Nearly all the time 81 - 100%	
9. Writing Ingredient Specifications 980	1 2	1	2	3	4	5	
10. Costing the Standard Recipe 667	1 2	1	2	3	4	5	
11. Writing Purchasing Specifications 672	1 2	1	2	3	4	5	
12. Completing the New Menu (final decisions on dishes for new menu) 910	1 2	1	2	3	4	5	
13. Finding Suppliers 363	1 2	1	2	3	4	5	
14. Requesting Quotations from Suppliers 484	1 2	1	2	3	4	5	
15. Writing the Standard Recipe 644	1 2	1	2	3	4	5	
16. Finalising the Standard Recipe 013	1 2	1	2	3	4	5	
17. Finalising the Purchasing Specifications 353	1 2	1	2	3	4	5	
18. Finalising the Suppliers 622	1 2	1	2	3	4	5	
19. Deciding on Purchase Order Routine 880	1 2	1	2	3	4	5	
20. Feedback on Ingredient & Product Performance (after introduction of new menu) 595	1 2	1	2	3	4	5	
21. Others (Please specify)	1 2	1	2	3	4	5	

7. **You have indicated several stages which you use frequently in the planning of new dishes for your menu(s). In what sequence do you usually pass through these stages? Please show this by arranging the cards provided in order. If you pass through any of the stages more than once please indicate this too with the additional cards.**

INTERVIEWER TO PROVIDE RESPONDENT WITH THE RELEVANT CARDS IN THE SEQUENCE LISTED IN QUESTION 6 AND TO HAVE SPARE CARDS READY IF SOME STAGES ARE DUPLICATED. BLANK CARDS SHOULD ALSO BE AVAILABLE IF THE RESPONDENT HAS ADDED ANY EXTRA STAGES OF HIS/HER OWN.

IN THE FIRST COLUMN OF THE TABLE ON PAGE 16 RECORD THE RANDOM 3 DIGIT NUMBERS FOR EACH OF THE STAGES IN THE CORRECT SEQUENCE. LEAVE THE CARDS PLACED ON THE TABLE IN THE SEQUENCE IN WHICH THEY WERE PLACED BY THE RESPONDENT IN ORDER FOR THE RESPONDENT TO MAKE CHANGES WHEN ANSWERING PARTS a), b) AND c).

Does the sequence change when you consider using:
a) **raw beef products;**
b) **prepared ready-to-cook beef products;**
c) **pre-cooked beef products?**

NOTE ANY DIFFERENCES FOR EACH OF THE THREE TYPES OF BEEF PRODUCTS RECORDING THE RANDOM 3 DIGIT NUMBERS OF THE STAGES IN THE CORRECT ORDER IN THE APPROPRIATE COLUMNS.

N.B. **THE CHEF MAY DECIDE TO USE STAGES NOT IDENTIFIED INITIALLY AS HE/SHE THINKS ABOUT EACH PRODUCT TYPE. (THE FIRST SEQUENCE WAS FOR <u>FREQUENTLY</u> USED STAGES SO OTHER STAGES MAY BE ADDED FOR a), b) AND c).**

P.T.O.

7. Sequence of stages in menu planning.

FOR CHANGE IN SEQUENCE IN a), b) & c):
IF THERE IS LITTLE CHANGE PLACE A ✓ IN THE CELLS ADJACENT TO THE FIRST NAMED STAGES STILL USED AND AN X IN THE CELLS ADJACENT TO THOSE NO LONGER USED.

ORDER OF STAGES BY NUMBER OF CARD	Change in Sequence for a) Raw Beef Products	Change in Sequence for b) Prepared Ready-to Cook Processed Beef Products	Change in Sequence for c) Pre-cooked Beef Products
1.	1.	1.	1.
2.	2.	2.	2.
3.	3.	3.	3.
4.	4.	4.	4.
5.	5.	5.	5.
6.	6.	6.	6.
7.	7.	7.	7.
8.	8.	8.	8.
9.	9.	9.	9.
10.	10.	10.	10.
11.	11.	11.	11.
12.	12.	12.	12.
13.	13.	13.	13.
14.	14.	14.	14.
15.	15.	15.	15.
16.	16.	16.	16.
17.	17.	17.	17.
18.	18.	18.	18.
19.	19.	19.	19.
20.	20.	20.	20.

INTERVIEWER TO READ THE QUESTION AND CIRCLE THE CODE FOR EACH RESPONSE

PRESENT THE RESPONDENT WITH SHOWCARD (11 for DISH EVALUATION, 14 FOR PURCHASING SPECIFICATIONS) OF ALL THE PERSONS OR GROUPS LIKELY TO BE INVOLVED AND SHOWCARD 12 & 13 WITH THE SCALES FOR INVOLVEMENT AND DEGREE OF INFLUENCE.

8. Personnel involved in Dish Evaluation and Writing (Deciding Upon) Purchasing Specifications.

8.1 Who is involved in the Dish Evaluation Stage? (SHOWCARD 11)

8.2 What is the extent of the involvement each person or group has? (SHOWCARD 12)

READ THE NAMES OF THE PERSONNEL INVOLVED GIVEN BY THE RESPONDENT IN 8.1 AND ASK FOR AN INVOLVEMENT SCORE. FOR PERSONNEL NOT INVOLVED THE SCORES WILL BE 1.

8.3. How much influence do those involved have over the selection of dishes for the final menu? (SHOWCARD 13)
Are there others with influence who are not involved in the dish evaluation stage? How much influence do they have?

READ THE NAMES OF THE PERSONNEL INVOLVED AGAIN AND ASK FOR AN INFLUENCE SCORE. FOR PERSONNEL NOT INVOLVED THE SCORES WILL BE 1.

8.4 Who is involved in writing (deciding upon) the specifications for beef products? (SHOWCARD 14)

8.5 What is the extent of their involvement? (SHOWCARD 12)

READ THE NAMES OF THE PERSONNEL INVOLVED GIVEN BY THE RESPONDENT IN 8.1 AND ASK FOR AN INVOLVEMENT SCORE. FOR PERSONNEL NOT INVOLVED THE SCORES WILL BE 1.

8.6 How much influence do those involved have over the final set of purchasing specifications used for purchasing beef products? (SHOWCARD 13)

READ THE NAMES OF THE PERSONNEL INVOLVED AGAIN AND ASK FOR AN INFLUENCE SCORE. FOR PERSONNEL NOT INVOLVED THE SCORES WILL BE 1.

8. **Personnel involved in Dish Evaluation (SHOWCARD 11) and Writing of Purchasing Specifications (SHOWCARD 14).**

Personnel/Customers For Dish Evaluation (SHOWCARD 11) For Purchasing Specifications (SHOWCARD 14)	DISH EVALUATION			PURCHASING SPECIFICATIONS		
	8.1 Involvement Yes=1 No=2	8.2 Involvement (SHOW-CARD 12)	8.3 Influence (SHOW-CARD 13)	8.4 Involvement Yes=1 No=2	8.5 Involvement (SHOW-CARD 12)	8.6 Influence (SHOW-CARD 13)
Executive Chef	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Head Chef	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Sous Chef(s)	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Chef(s) de Partie	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Commis/Cook(s)	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Apprentice(s)	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Other Kitchen Staff	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Maitre D'Hotel	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Service Staff	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Food and Beverage Manager	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
General Manager	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Assistant Manager(s)	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Chef/Owner Operator	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Owner Operator	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5

Personnel/Customers For Dish Evaluation (SHOWCARD 11) For Purchasing Specifications (SHOWCARD 14)	DISH EVALUATION			PURCHASING SPECIFICATIONS		
	8.1 Involvement Yes=1 No=2	8.2 Involvement (SHOW-CARD 12)	8.3 Influence (SHOW-CARD 13)	8.4 Involvement Yes=1 No=2	8.5 Involvement (SHOW-CARD 12)	8.6 Influence (SHOW-CARD 13)
Catering Manager	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Purchasing Manager	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Purchasing Officer(s)	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Managing Director	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Board of Directors	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Head Office Staff	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
Taste Panel	1 2	1 2 3 4 5	1 2 3 4 5	N/A	not applicable	not applicable
Food Committee	1 2	1 2 3 4 5	1 2 3 4 5	N/A	not applicable	not applicable
Regular Customers (complimentary dishes)	1 2	1 2 3 4 5	1 2 3 4 5	N/A	not applicable	not applicable
Customers (who buy 'Specials')	1 2	1 2 3 4 5	1 2 3 4 5	N/A	not applicable	not applicable
Others (please specify)	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
	1 2	1 2 3 4 5	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5

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INTERVIEWER TO ASK QUESTIONS 9, 10 AND 11 AND TO COMPLETE THE TABLES BY CIRCLING THE CORRECT CODES FOR THE RESPONDENT'S ANSWERS.

9. Regular Supplier. What kind of supplier are you currently using for the following product types? (SHOWCARD 15)

Beef Product Type READ TO RESPONDENT		Supplier Type - Circle the number of the appropriate supplier (SHOWCARD 15)				
		Retail Butcher	Wholesale Butcher/ Wholesaler	Distributor	Meat/Food Processor	None
a)	Raw beef products	1	2	3	4	5
b)	Prepared ready-to-cook (processed) beef products	1	2	3	4	5
c)	Pre-cooked beef products	1	2	3	4	5

10. Have you purchased any new beef products (i.e. new to you or your operation) in the past five years? Yes/No

11. When you purchase a new beef product how often do you stay with the same supplier? (SHOWCARD 16)

Beef Product Type READ TO RESPONDENT		Frequency with which the same supplier is retained for the purchase of new beef products (SHOWCARD 16)			
		Never	Occasionally	Regularly	Always
a)	Raw beef products	1	2	3	4
b)	Prepared ready-to-cook (processed) beef products	1	2	3	4
c)	Pre-cooked beef products	1	2	3	4

PRODUCT TRIALS

INTERVIEWER TO CIRCLE THE NUMBER OF THE PRODUCT(S) WHICH THE RESPONDENT WILL BE GIVING A TRIAL.

1. Tender beef in thin slices
2. Fricadelle - the alternative burger

Best day of the week for delivery ______________________

Best time of day for delivery ______________________

You will be telephoned to arrange a date for delivery of the samples.

Many thanks for your interest. Your participation is very much appreciated.

SHOWCARDS FOR SURVEY 2

SHOWCARD 1

METHODS OF MENU ANALYSIS

1. Subjective evaluation based on experience
2. Sales records, number of sales of each menu item
3. Food Cost Percentage
4. Calculation of Popularity Indexes of menu items
5. Menu Engineering (menu mix/sales percentages vs. contribution margin)
6. Customer feedback
7. Other methods, please specify.

****

SHOWCARD 2

FREQUENCY MENU ANALYSIS METHOD IS USED

(As a % of the Times when Menu Analysis is Used)

1. 0 - 20% Infrequently
2. 21 - 40%
3. 41 - 60%
4. 61 - 80%
5. 81 - 100% Nearly all the time

****

SHOWCARD 3

WHEN YOU REVISE YOUR MENU(S) DO YOU:

1. completely revise the whole menu changing over half the dishes (even if slightly);
2. revise the menu conservatively, keeping over half of the dishes (the best sellers) and changing other dishes - that is do a re-vamp;
3. revise the menu as in 1 and in between the major changes introduce new dishes and specials to provide additional variety (this may take the form of a 'Specials' menu);
4. revise the menu as in 2 and in between the major changes introduce new dishes and specials to provide additional variety (this may take the form of a 'Specials' menu);
5. maintain the existing menu by introducing new dishes and specials at intervals (this may take the form of a 'Specials' menu) but never drastically changing it.
6. never change the menu.

****

SHOWCARD 4

REVISION OF THE MENU

How often do you revise the menu?

1. at least once every 3 months
2. once every 4-6 months
3. once every 7-12 months
4. less frequently than 1, 2 or 3.

****

SHOWCARD 5

INTRODUCTION OF NEW DISHES OR SPECIALS

How often do you introduce new dishes or specials?

1. every day/more than once a week
2. about once a week
3. about once a fortnight
4. about once a month
5. less than once a month

****

SHOWCARD 6

NEW INGREDIENTS/PRODUCTS

Number of New Ingredients/Products

1. 0 - 10
2. 11 - 20
3. 21 - 30
4. 31 - 40
5. > 40

SHOWCARD 7

SOURCES OF INFORMATION ABOUT NEW PRODUCTS

Which sources of information bring new beef products to your attention?

1. food processing company representatives
2. sales representatives of distributors
3. persons in other foodservice operations
4. persons in your own foodservice operation
5. product literature from food processing company
6. articles in trade journals
7. business/magazine advertisements
8. trade shows
9. professional association gatherings/meetings
10. suppliers' promotions
11. customer suggestions
12. others (please specify)

****

SHOWCARD 8

SOURCES OF INFORMATION ABOUT NEW PRODUCTS

Frequency of Use of the Sources of Information

(As a % of the times you use sources of information)

1. 0 - 20% Infrequently
2. 21 - 40%
3. 41 - 60%
4. 61 - 80%
5. 81 - 100% Nearly all the time

****

SHOWCARD 9

STAGES IN THE PLANNING OF NEW DISHES FOR THE MENU

(Stages in Menu Planning)

1. Ideas for New Dishes
2. Choosing the best new dish ideas for testing
3. Recipe Formulation (Standard Recipe)
4. Choosing Ingredients (Ingredients/Products Selection)
5. Testing Ingredients & Products (in Dish Trials)
6. Recipe Testing (Dish Trials)
7. Evaluating (judging) the Trial Dishes
8. 'Make-or-Buy' Decisions
9. Writing Ingredient Specifications
10. Costing the Standard Recipe
11. Writing Purchasing Specifications
12. Completing the New Menu (final decisions on dishes for new menu)
13. Finding Suppliers
14. Requesting Quotations from Suppliers
15. Writing the Standard Recipe
16. Finalising the Standard Recipe
17. Finalising the Purchasing Specifications
18. Finalising the Suppliers
19. Deciding on Purchase Order Routine
20. Feedback on Ingredient & Product Performance (after introduction of new menu)
21. Others (Please specify)

****

SHOWCARD 10

FREQUENCY OF USE OF THE STAGES IN MENU PLANNING

(As a % of the times you plan new dishes)

1.	0 - 20%	Infrequently
2.	21 - 40%	
3.	41 - 60%	
4.	61 - 80%	
5.	81 - 100%	Nearly all the time

****

SHOWCARD 11

DISH EVALUATION

Personnel/Customers Involved in Dish Evaluation

Executive Chef

Head Chef

Sous Chef(s)

Chef(s) de Partie

Commis/Cook(s)

Apprentice(s)

Other Kitchen Staff

Maître D'Hôtel

Service Staff

Food and Beverage Manager

General Manager

Assistant Manager(s)

Chef/Owner Operator

Owner Operator

Catering Manager

Purchasing Manager

Purchasing Officer(s)

Managing Director

Board of Directors

Head Office Staff

Taste Panel

Food Committee

Regular Customers (complimentary dishes)

Customers (who buy 'Specials')

Others (please specify)

****

SHOWCARD 12

INVOLVEMENT

Never involved 1 2 3 4 5 Always involved

****

SHOWCARD 13

INFLUENCE

Not influential 1 2 3 4 5 Very influential

****

SHOWCARD 14

PURCHASING SPECIFICATIONS

Personnel Involved in Writing (Deciding Upon) Purchasing Specifications

Executive Chef

Head Chef

Sous Chef(s)

Chef(s) de Partie

Commis/Cook(s)

Apprentice(s)

Other Kitchen Staff

Maître D'Hôtel

Service Staff

Food and Beverage Manager

General Manager

Assistant Manager(s)

Chef/Owner Operator

Owner Operator

Catering Manager

Purchasing Manager

Purchasing Officer(s)

Managing Director

Board of Directors

Head Office Staff

Others (please specify)

****

SHOWCARD 15

SUPPLIERS

What kind of supplier are you using?

1. Retail Butcher
2. Wholesale Butcher/Wholesaler
3. Distributor
4. Meat/Food Processor
5. None

****

SHOWCARD 16

SUPPLIERS

When you purchase a new beef product how often do you stay with the same supplier?

1. Never
2. Occasionally
3. Regularly
4. Always

****

Product Concept descriptions from the first survey for the Tender Beef in Thin Slices, the Fricadelle and the pre-cooked Meat Loaf were also provided on showcards.

APPENDIX 19

INSTRUCTION SHEETS AND QUESTIONNAIRES FOR SURVEY 3

NEW BEEF PRODUCT ADOPTION SURVEY

In this envelope you will find the following:

1. A cover sheet with the details of your operation for you to check.

2. A Product Description sheet providing descriptions of the two products which you indicated an interest in sampling:
   * Tender Beef in Thin Slices;
   * Fricadelle - The Alternative Burger.

3. Two recipes suitable for use with the Tender Beef in Thin Slices.

4. A questionnaire for your evaluation of the Tender Beef in Thin Slices comprising:
   * Part A for the Evaluation of the Raw Product (printed on green paper);
   * Part B Evaluation of the Cooked Product;
   * Part C Evaluation of the Product in Use;
   * Part D Product Testing and Adoption.

5. A questionnaire for your evaluation of the Fricadelle comprising:
   * Part A Evaluation of the Cooked Product;
   * Part B Evaluation of Product in Use;
   * Part C Product Testing and Adoption.

INSTRUCTIONS

1. When you test the products please would you ensure that you complete the *Evaluation of the Raw Product for the Tender Beef in Thin Slices* first and then complete the *Evaluations of the Cooked Products* at the time that you cook and taste them.

2. The parts which involve *Evaluation of Product Use and Product Testing and Adoption* will also need to be completed as soon as possible after the tests. You will find that the format of most of the questions is very similar to those you have already answered in the earlier interviews and so should be quite easy to complete. However, if you have any queries about the questions or any difficulties do answer what you can and, when the questionnaire is collected, I will go over the questions with you.

3. When you have completed the questionnaires please would you retain then in the same envelope ready for collection.

THIS IS THE FINAL AND MOST CRITICAL STAGE OF THE PROJECT SO I WOULD LIKE TO TAKE THE OPPORTUNITY TO THANK YOU ONCE AGAIN FOR YOUR CONTINUING INTEREST AND PARTICIPATION. IT IS VERY MUCH APPRECIATED.

QUESTIONNAIRE
New Beef Product Adoption Process Survey
Stage 3 Product Trials

Two products are provided for you to try.
1. Tender Beef in Thin Slices (1 kg pack of approximately 24 slices).
2. Fricadelle - The Alternative Burger (6 Fricadelles).

With these samples are two questionnaires designed for your evaluation of each of the products. Please would you complete them at the time you test the products so that your opinions are recorded as accurately as possible.

Foodservice Operation Name ______________________________

Group/Chain Name ______________________________

Address ______________________________

____

Telephone Number ______________________________

Respondent's Name ______________________________

Position ______________________________

Interviewer ______________________________

Date and Time of Samples Delivery ______________________________

Date and Time of Questionnaire Collection ______________________________

OUTLETS: PLEASE WOULD YOU CHECK THAT THESE AND THE ABOVE DETAILS ARE STILL CORRECT

Outlets	**Outlet Name**	**Outlet Type**
Outlet 01		
Outlet 02		
Outlet 03		
Outlet 04		
Outlet 05		
Outlet 06		
Outlet 07		
Outlet 08		
Outlet 09		
Outlet 10		

PRODUCT DESCRIPTIONS

1. TENDER BEEF IN THIN SLICES

This is a raw beef product suitable for the creation of tender, lighter beef dishes which could be offered as entrées or as lighter main courses, notably as alternatives to steaks and other more substantial beef dishes. The slices will be very thin (2 mm thick), tender, without visible fat and offer additional versatility as they can be used either as slices or cut into strips for the chefs' own requirements.

Product Dimensions: 2 mm thick, 15 - 20 cm in length and 10 cm wide (approximately).
Packaging: the slices will be cryovac packed to protect them from damage and to enable easy separation without tearing. The weight of beef per pack will be 2 kg to avoid wastage. The product will be sold chilled.
Price: $9 per kg (using topside). Price will depend upon the market prices for beef.

Suggestions for use of the product include:
Australian dishes: beef in garlic sauce, beef in mushroom sauce;
European dishes: rolled and stuffed as in beef olives, beef 'birds' and roulades; in beef consommé;
cooked beef in salads;
Asian dishes: beef strips Balinese style, beef in oyster sauce, teriyaki beef and other stir fry dishes.

Recipes provided with the samples:
Teriyaki Beef
Beef and Mushroom Roulades

****

2. FRICADELLE - THE ALTERNATIVE BURGER

This product is the interesting alternative to the Big Burger. It has unique features which distinguish it from the usual beefburger, both in shape and flavour.

Shape: it is long and oval fitting snugly into a long (15 cm) bread roll.
Flavour: beef and bacon with a delicate blend of herb and lemon.
Texture: it is tender and soft.

It will take no longer to cook than the burger and so will be suitable for fast lunch-time service.
It will be individually quick frozen (IQF) for easy separation and sold frozen, packaged in cartons.

Portion Size: 85 g
Packaging: 60 per carton
Price: $36.15 per carton

Suggestions for use of the Fricadelle include:
Fricadelle in a roll with salad and french fries.
Two Fricadelles served with salad and french fries, topped with a choice of sauces and pickles.

TENDER BEEF IN THIN SLICES

PART A EVALUATION OF THE RAW PRODUCT

Please score the product in terms of its use within your operation.

Before you cook the beef please would you evaluate its physical characteristics using the following scales.

For each of the following questions place an X in the box which is closest to your opinion.

A1 What is your opinion of the colour of the pieces of beef?

☐ ☐ ☐ ☐ ☐

Extremely Red — Just Right — Extremely Brown

A2 What is your opinion of the grain of the pieces of beef?

☐ ☐ ☐ ☐ ☐

Extremely Coarse — Just Right — Extremely Fine

A3 What is your opinion of the leanness of the pieces of beef?

☐ ☐ ☐ ☐ ☐

Extremely Fatty — Just Right — Extremely Lean

A4 What is your opinion of the amount of connective tissue in the pieces of beef?

☐ ☐ ☐ ☐ ☐

Extremely Large Amount — Just Right — Extremely Small Amount

A5 What is your opinion of the shape of the pieces of beef?

☐ ☐ ☐ ☐ ☐

Extremely Irregular — Just Right — Extremely Regular

A6 What is your opinion of the size of the pieces of beef?

Please answer for length breadth and thickness.

A6.1 ☐ ☐ ☐ ☐ ☐

Extremely Short — Just Right — Extremely Long

A6.2 ☐ ☐ ☐ ☐ ☐

Extremely Narrow — Just Right — Extremely Wide

A6.3 ☐ ☐ ☐ ☐ ☐

Extremely Thin — Just Right — Extremely Thick

PART B EVALUATION OF THE COOKED PRODUCT

Please score the product in terms of its use within your operation.

Choose one of the following two ways to test the product. Please make your selection according to the type of dish you are most likely to use on your menu(s).
Either
i) Prepare the Teriyaki Beef or a similar stir fry dish;
or
ii) Prepare the Beef and Mushroom Roulades or a similar braised beef roulade/olive dish.

Dish Selected for the Test

Dish Name: ______________________________

Cooking method ______________________________

Please score the product in terms of its use within your operation.

LIKING OF BEEF CHARACTERISTICS

B1 Is there anything you particularly like about this beef product?

____

____

B2 Is there anything you particularly dislike about this beef product?

____

____

Please write your score in the boxes for questions B3 - B6 using the following 9 point scale.

1	2	3	4	5	6	7	8	9
Dislike Extremely				**Neither Like Nor Dislike**				**Like Extremely**

B3. How do you like the beef product overall, considering the whole eating experience? ☐

B4. How do you like the overall appearance of the beef product? ☐

B5. How do you like the overall flavour of the beef product? ☐

B6. How do you like the overall texture of the beef product? ☐

EVALUATION OF PHYSICAL CHARACTERISTICS

Please mark the box with an X which is closest to your opinion.

AROMA AND FLAVOUR

B7 **What is your opinion of the aroma of the beef?**

☐	☐	☐	☐	☐
Extremely Weak Aroma		Just Right		Extremely Strong Aroma

B8 **What is your opinion of the flavour of the beef?**

☐	☐	☐	☐	☐
Extremely Weak Flavour		Just Right		Extremely Strong Flavour

TEXTURE

B9 **What is your opinion of the texture of the beef? Please answer for tenderness and juiciness.**

B9.1	☐	☐	☐	☐	☐
	Extremely Tender		Just Right		Extremely Tough
B9.2	☐	☐	☐	☐	☐
	Extremely Dry		Just Right		Extremely Juicy

PART C EVALUATION OF PRODUCT USE: PERFORMANCE AND RISKS
Please score the product in terms of its use within your operation.
Now that you have used the product in a dish and evaluated it please would you consider how you would use it in your operation.

C1 Product use and life cycle
C1.1 In which of your outlets would you use this product?
C1.2 What would you expect the product life cycle to be?

Outlets	Outlet Name	Product Life Cycle days, 1-4 weeks, 1-6 months, 7-12 months, > 1 year
Outlet 01		
Outlet 02		
Outlet 03		
Outlet 04		

C2 For which meal periods is the product most suitable?
Please mark the appropriate boxes with an X.

- ☐ Breakfast
- ☐ Lunch
- ☐ Dinner
- ☐ Supper

C3 C3.1 How would you use this product? C3.2 Who would the customers be for this product?

Use of the Product		Types of Customers who would buy the dishes		
Dish Type, Cooking Method, Accompaniments, Entrée or Main Course.	Probable Selling Price $	Age Group <20, 20-34, 35-49, 50-64, ≥65 years	Sex M/F	Category of Customer* 1 2 3 4 5 6

* Category of Customer Type

1. Business people
2. Families
3. Shoppers
4. People out for a social occasion/celebrating
5. Regular customers not described by other terms here
6. Mixture not clearly defined

C4 How do you rate the performance of the product?

Please use the following five point scales and place an X on each scale where the product fits best.

	How do you rate the performance of the product?		
C4.1	Very high cost	____:____:____:____:____	Very low cost
C4.2	Poor value for money	____:____:____:____:____	Excellent value for money
C4.3	No labour saved	____:____:____:____:____	A great deal of labour saved
C4.4	No time saved	____:____:____:____:____	A great deal of time saved
C4.5	No saving on equipment use	____:____:____:____:____	A great deal saved on equipment use
C4.6	Not versatile	____:____:____:____:____	Very versatile
C4.7	Low quality	____:____:____:____:____	Very high quality
C4.8	No need for the product	____:____:____:____:____	Product is a necessity
C4.9	Very difficult to store	____:____:____:____:____	Very easy to store
C4.10	Very difficult to prepare	____:____:____:____:____	Very easy to prepare
C4.11	Very difficult to cook	____:____:____:____:____	Very easy to cook
C4.12	Very unsuitable batch size	____:____:____:____:____	Very suitable bach size
C4.13	Very high wastage	____:____:____:____:____	Very low wastage
C4.14	Not suitable to serve a large number of meals efficiently	____:____:____:____:____	Very suitable to serve a large number of meals efficiently
C4.15	No demand for dishes expected	____:____:____:____:____	Very high demand for dishes expected
C4.16	Very short product life cycle expected	____:____:____:____:____	Very long product life cycle expected

C5 How do you rate the risk in using this product?

	Type of Risk expected in using the product	Degree of risk
C5.1	too high use of one piece of equipment;	No risk ____:____:____:____:____ Very high risk
C5.2	increased storage capacity required;	No risk ____:____:____:____:____ Very high risk
C5.3	increased staff costs;	No risk ____:____:____:____:____ Very high risk
C5.4	chefs' skills reduced;	No risk ____:____:____:____:____ Very high risk
C5.5	poor peer recognition;	No risk ____:____:____:____:____ Very high risk
C5.6	failure of the product in the marketplace;	No risk ____:____:____:____:____ Very high risk
C5.7	high financial losses;	No risk ____:____:____:____:____ Very high risk
C5.8	food safety risk.	No risk ____:____:____:____:____ Very high risk

PART D **PRODUCT TESTING AND ADOPTION**

Please mark the appropriate boxes with an X.

D1 **After testing the product, did you make a decision on buying the product?**
Yes ☐ No ☐

If YES what was your buying intention?

- ☐ Definitely would buy
- ☐ Probably would buy
- ☐ Maybe buy/maybe not buy
- ☐ Probably would not buy
- ☐ Definitely would not buy

D2 **How would you prefer to buy the Tender Beef in Thin Slices?**

☐ as slices ☐ as strips ☐ as slices and strips

D3 **Who else did you ask to evaluate the product?**

Position/Job Title of Evaluator	Evaluation Role, e.g. cooking, tasting, costing dishes

D4 **What would your next step be in adopting this product?**

Place the product in the menu ☐

Do further trials ☐

Other, please specify ______________________________

D5 **If you placed the product in the menu, how would you do this?**

- ☐ as a 'Special' in the menu
- ☐ on your main menu immediately
- ☐ on your main menu at the next menu change
- ☐ other, please specify ______________________________

D6 If you needed to do further trials, what would the trials involve?

- ☐ recipe development
- ☐ costing
- ☐ testing of dishes by other staff
- ☐ trying out dishes with regular customers
- ☐ comparison of acceptability, costing of this beef product with other beef products
- ☐ discussions with a group of staff
- ☐ other, please specify ______________________________

What weight (kg) of the product would you need for the trials? ____________kg

What other information would you need from the company?_______________

____

Who would be involved in the trials?

Job Titles____

____

D7 Who would make the final decision on including the product in the menu?

Job Titles____

____

COMMENTS

Please write any further comments you may have about the Tender Beef in Thin Slices below.

____

____

____

____

____

____

MANY THANKS FOR YOUR PARTICIPATION. IT IS VERY MUCH APPRECIATED.

FRICADELLE

PART A — EVALUATION OF THE COOKED PRODUCT

Please score the product in terms of its use within your operation.

Please cook the product on the grill plate turning once, it will take approximately 7 minutes, then score the product in terms of its use within your operation.

LIKING OF FRICADELLE CHARACTERISTICS

A1 **Is there anything you particularly like about the Fricadelle?**

____

____

A2 **Is there anything you particularly dislike about the Fricadelle?**

____

____

Please write your score in the boxes for questions A3 - A6 using the following 9 point scale.

1	2	3	4	5	6	7	8	9
Dislike Extremely				Neither Like Nor Dislike				Like Extremely

A3.	**How do you like the Fricadelle overall, considering the whole eating experience?**	☐
A4.	**How do you like the overall appearance of the Fricadelle?**	☐
A5.	**How do you like the overall flavour of the Fricadelle?**	☐
A6.	**How do you like the overall texture of the Fricadelle?**	☐

EVALUATION OF PHYSICAL CHARACTERISTICS

Please mark the box with an X which is closest to your opinion.

APPEARANCE

A7. **What is your opinion of the colour of the Fricadelle?**

☐	☐	☐	☐	☐
Extremely Pale		Just Right		Extremely Dark

A8 **What is your opinion of the size of the Fricadelle? Please answer for size and thickness.**

A8.1

☐	☐	☐	☐	☐
Extremely Small Size		Just Right		Extremely Large Size

A8.2

☐	☐	☐	☐	☐
Extremely Thin		Just Right		Extremely Thick

AROMA & FLAVOUR

A9 What is your opinion of the aroma of the Fricadelle?

☐	☐	☐	☐	☐
Extremely Weak Aroma		Just Right		Extremely Strong Aroma

A10 What is your opinion of the flavour of the Fricadelle?

☐	☐	☐	☐	☐
Extremely Weak Flavour		Just Right		Extremely Strong Flavour

TEXTURE

A11 What is your opinion of the texture of the Fricadelle? Please answer for tenderness, crumbliness and dryness.

A11.1	☐	☐	☐	☐	☐
	Extremely Tender		Just Right		Extremely Rubbery
A11.2	☐	☐	☐	☐	☐
	Extremely Crumbly		Just Right		Extremely Firm
A11.3	☐	☐	☐	☐	☐
	Extremely Dry		Just Right		Extremely Moist

PART B EVALUATION OF PRODUCT USE: PERFORMANCE AND RISKS
Please score the product in terms if its use within your operation.
Now that you have cooked the Fricadelle and evaluated it please would you consider how you would use it in your operation.

B1 Product use and life cycle
B1.1 In which of your outlets would you use this product?
B1.2 What would you expect the product life cycle on the menu to be?

Outlets	Outlet Name	Product Life Cycle on the Menu days, 1-4 weeks, 1-6 months, 7-12 months, > 1 year
Outlet 01		
Outlet 02		
Outlet 03		
Outlet 04		

B2 For which meal periods is the product most suitable?
Please mark the appropriate boxes with an X.

- ☐ Breakfast
- ☐ Lunch
- ☐ Dinner
- ☐ Supper

B3 B3.1 How would you use this product? B3.2 Who would be the customers for this product?

Use of the Product		Types of Customers who would buy the dishes		
Dish Type, Cooking Method, Accompaniments, Entree or Main Course.	Probable Selling Price $	Age Group <20, 20-34, 35-49, 50-64, ≥65 years	Sex M/F	Category of Customer* 1 2 3 4 5 6

* Category of Customer Type

1. Business people
2. Families
3. Shoppers
4. People out for a social occasion/celebrating
5. Regular customers not described by other terms here
6. Mixture not clearly defined

B4 How do you rate the performance of the product?

Please use the following five point scales and place an X on each scale where the product fits best.

	How do you rate the performance of the product?		
B4.1	Very high cost	____:____:____:____:____	Very low cost
B4.2	Poor value for money	____:____:____:____:____	Excellent value for money
B4.3	No labour saved	____:____:____:____:____	A great deal of labour saved
B4.4	No time saved	____:____:____:____:____	A great deal of time saved
B4.5	No saving on equipment use	____:____:____:____:____	A great deal saved on equipment use
B4.6	Not versatile	____:____:____:____:____	Very versatile
B4.7	Low quality	____:____:____:____:____	Very high quality
B4.8	No need for the product	____:____:____:____:____	Product is a necessity
B4.9	Very difficult to store	____:____:____:____:____	Very easy to store
B4.10	Very difficult to prepare	____:____:____:____:____	Very easy to prepare
B4.11	Very difficult to cook	____:____:____:____:____	Very easy to cook
B4.12	Very unsuitable batch size	____:____:____:____:____	Very suitable batch size
B4.13	Very high wastage	____:____:____:____:____	Very low wastage
B4.14	Not suitable to serve a large number of meals efficiently	____:____:____:____:____	Very suitable to serve a large number of meals efficiently
B4.15	No demand for dishes expected	____:____:____:____:____	Very high demand for dishes expected
B4.16	Very short product life cycle expected	____:____:____:____:____	Very long product life cycle expected

B5 How do you rate the risk in using this product?

Please use the following five point scales and place an X on each scale where the product fits best.

	Type of Risk expected in using the product	**Degree of Risk**
B5.1	too high use of one piece of equipment	No risk ____:____:____:____:____ Very high risk
B5.2	increased storage capacity required	No risk ____:____:____:____:____ Very high risk
B5.3	increased staff costs	No risk ____:____:____:____:____ Very high risk
B5.4	chefs' skills reduced	No risk ____:____:____:____:____ Very high risk
B5.5	poor peer recognition	No risk ____:____:____:____:____ Very high risk
B5.6	failure of the product in the marketplace	No risk ____:____:____:____:____ Very high risk
B5.7	high financial losses	No risk ____:____:____:____:____ Very high risk
B5.8	food safety risk	No risk ____:____:____:____:____ Very high risk

****

PART C PRODUCT TESTING AND ADOPTION

Please mark the appropriate boxes with an X.

C1 After testing the product, did you make a decision on buying the product? **Yes ☐ No ☐**

If YES what was your buying intention?

☐ Definitely would buy
☐ Probably would buy
☐ Maybe buy/maybe not buy
☐ Probably would not buy
☐ Definitely would not buy

C2 Who else did you ask to evaluate the product?

Position/Job Title of Evaluator	Evaluation Role, e.g. cooking, tasting, costing, dishes

C3 What would your next step be in adopting this product?

Place the product in the menu ☐

Do further trials ☐

Other, please specify ______________________________

C4 If you placed the product in the menu, how would you do this?

☐ as a 'Special' in the menu

☐ on your main menu immediately

☐ on your main menu at the next menu change

☐ other, please specify ______________________________

C5 If you needed to do further trials, what would the trials involve?

☐ recipe development

☐ costing

☐ testing of dishes by other staff

☐ trying out dishes with regular customers

☐ comparison of acceptability, costing of the Fricadelle with similar beef products

☐ discussions with a group of staff

☐ other, please specify ____________________

How many Fricadelles would you need for these trials? __________

What other information would you need from the company?__________

____

Who would be involved in the trials?

Job Titles ____________________

____

C6 Who would make the final decision on including the product in the menu?

Job Titles ____________________

____

COMMENTS

Please write any further comments you may have about the Fricadelle below.

____

____

____

____

____

____

MANY THANKS FOR YOUR PARTICIPATION. IT IS VERY MUCH APPRECIATED.

APPENDIX 20

BEEF PRODUCT IDEAS GENERATED BY THE TWO BRAINSTORMING SESSIONS

PRODUCTS PREPARED BUT NOT COOKED: RAW BEEF PRODUCTS (25 IDEAS)

1. **Raw beef cuts - ways of cutting (11 ideas)**
   * Spareribs with the meat still on them.
   * Tournedos, varied ways of presenting them, e.g. with pâté, with oysters.
   * 'Julienned' meat.
   * Better quality portion control.
   * Beef sliced very thinly (like smoked salmon) for light beef dishes especially entrées.
   * Rolled roasts, more cuts at different prices.
   * Standard shapes for cuts of steak and sliced beef.
   * Beef with guaranteed tenderness.
   * More use of the 'round - the baron of beef' with new cuts.
   * Removal of the gristle from the sirloin.
   * Production of a cut of beef to produce noisettes, possibly with a stuffing of a fruit like kiwi fruit which also acts as a tenderiser.
2. **Raw beef with coatings (3 ideas)**
   * Beef chunks with different coatings, e.g. batter, crumbs.
   * Crumbed products for functions.
   * Beef nuggets.
3. **Raw beef cuts with marinades (7 ideas)**
   * Marinated beef strips/pieces for stir fry with savoury flavours, e.g. Mexican.
   * Beef chunks either loose or on skewers.
   * Beef nuggets which can be deep fried or barbecued.
   * New dishes with small amounts of beef, variations on stir fry.
   * Marinaded beef in alcoholic beverages, e.g. beer, wine marinades.
   * Liqueur flavoured beef, e.g. rum beef, benedictine beef.
   * Pickled beef plus other flavours including barbecue, cheese, pâté, oysters.
4. **Raw beef with stuffings (4 ideas)**
   * Schnitzels, with stuffings including ingredients like cheese.
   * Rolled roasts with stuffings, more cuts at different prices.
   * Stuffed beef, using 'boned out' beef cuts.
   * Beef olives.

PRODUCTS PREPARED READY-TO-COOK BEEF PRODUCTS (7 IDEAS)

5. **Beef in pastry (1 idea)**
   * Individual Beef Wellingtons, boxed.
6. **Processed beef (6 ideas)**
   * Savoury beef patties.
   * Beef and another meat combined in, for example, nuggets.
   * Processed products made from forequarter meat to make shaped products and offered with a sauce.
   * Meat balls.
   * Beef combinations meat platter, a mixture of a variety of beef products suitable for a complete meal, e.g. a consommé, beef nuggets, served with fruit.
   * A competitor for the BLT (bacon, lettuce, tomato butty), e.g. the BBT (bacon, beef and tomato butty).

PRE-COOKED BEEF PRODUCTS (42 IDEAS)

7. **Sauces for beef dishes (6 ideas)**
   * Sauces to go with kebabs.
   * Sauces to go with beef nuggets.
   * Sauces to which extra vegetables can be added to go with the stir fry product.
   * Sauces to go with the spareribs.
   * Sauces with more beef flavour to replace gravies.
   * Sweeter sauces for children, e.g. sweet and sour sauce, to add to beef dishes.
8. **Casserole-style beef dishes (1 idea)**
   * Stroganoff with mushrooms and cream.
9. **Pies and pastry products (5 ideas)**
   * Varied fillings for beef pies.
   * Pastry jellied pie, e.g. pork pie style.
   * Beef pies - bite sized with filo pastry.
   * Sausage roll style of product.
   * Mini vol-au-vents.
10. **Processed/pickled/cooked beef for salads (7 ideas)**
   * Pastrami-style product for cold salads, e.g. Malaysian salad.
   * Pâtés.
   * Beef sausages, different flavours and perceived informed nutrition (low salt, high fibre ...) for slicing, with different shapes.
   * Strips of beef in thin finger pieces to dip into sauces and dips.
   * Smoked beef in thin strips for shaping, e.g. rolling, twisting, could be served with horseradish.
   * Beef salami to be served with fruit.
   * 'Beef bits' for salads.
11. **Processed beef products cooked/ready to re-heat (15 ideas)**
   * Savoury beef patties, varieties, e.g. with garlic, herbs, spices.
   * Low fat versions of beef patties.
   * Meat loaves ready prepared.
   * Pasta products using mince, e.g. lasagne, ravioli.
   * Pita 'pocket' fillings with beef.
   * Mexican meat dishes, e.g. taco fillings.
   * Beef fillings for crêpes.
   * Wantons, with a beef filling.
   * Omelettes with a beef filling.
   * Nachos.
   * Curries - rice-based dishes.
   * Beef hot dogs plus sauces to serve with them.
   * Extruded products, e.g. co-extruded beef sausage with cheese, tomato sauce.
   * Beef flavoured 'chip' products, either dry brittle products or french fry style.
   * Frozen pre-cooked cannelloni to defrost, heat and eat.
12. **Beef cuts ready cooked (8 ideas)**
   * 'Julienned' meat, cooked and rare.
   * Strips of beef in thin finger pieces to dip into sauces and dips.
   * Beef cut into circles.
   * Variations on rare, medium rare.... for pre-cooked steaks to guarantee degree of doneness.
   * Beef in thin slices served with fruit.
   * Roast sirloin (to be served hot).
   * Stuffed roast beef.
   * Beef olives.

APPENDIX 21

BEEF PRODUCT IDEAS SCREENED OUT AT THE FIRST SCREENING STAGE

Product Category and Product Ideas	Reason for Screening the Product Idea out of the List
<u>**Products Prepared But Not Cooked**</u>	
Raw Beef with Coatings 1. Crumbed products for functions.	1. This is a schnitzel style of product. There are already products of this kind on the market.
Raw Beef Cuts - Ways of Cutting 2. Spareribs with meat still on them. 3. Tournedos, varied ways of presenting them, e.g. with pâté, with oysters. 4. Standard shapes for cuts of steak and sliced beef. 5. Removal of the gristle from the sirloin.	2. Rib Eye steaks are already offered on menus in Melbourne. 3. Eye fillet is used for tournedos and if value is added the price would be too high. 4. This is already being done to some extent with portion controlled beef. 5. This can be done by butchers and wholesalers on request.
Beef in Pastry 6. Individual Beef Wellingtons, boxed.	6. Beef Wellingtons are already available on the market.
Sauces for beef dishes 7. Sauces to go with the spareribs.	7. These could be included in a family of sauces developed to go with a variety of beef cuts.
<u>**Products Prepared and Cooked**</u>	
Processed/pickled/cooked beef for salads 8. Pâtés.	8. There is already a great variety of pâtés available on the market.
Processed beef products cooked/ready to re-heat 9. Meat loaves ready prepared. 10. Pasta products using mince, e.g. lasagne, ravioli, cannelloni. 11. Nachos. 12. Curries - rice-based dishes.	9. This may be seen as more suitable for institutional foodservice operations. 10. There are already many of these products on the market. 11. These may be too specialised. 12. There is a great variety of curries already available on the market.

APPENDIX 22

BEEF PRODUCT IDEAS FOR DISCUSSION AT THE SECOND SCREENING STAGE (30 IDEAS)

Raw Beef Products (9 ideas)

1. **Raw beef cuts - ways of cutting (2 ideas)**
Objective: to develop a new cut of beef which provides a tender lighter alternative beef entrée or main course dish using the forequarter or the less expensive parts of the hindquarter.
    * Beef sliced very thinly (like smoked salmon) or in 'julienne' pieces for light beef dishes especially entrées.
    * More cuts from the 'round - the baron of beef' and the forequarter for rolled roasts and at different prices: for example noisettes, with a stuffing of fruit, like kiwi fruit, which also acts as a tenderiser.
2. **Raw beef cuts with marinades (4 ideas)**
Objective: to develop a marinated beef product which is tender and flavoursome to use in lighter dishes for entrées or for main courses.
    * Marinated beef strips/pieces for stir fry and variations on stir fry with savoury flavours, e.g. Mexican.
    * Marinated beef chunks/nuggets, either loose or on skewers, which can be deep fried or barbecued.
    * Beef marinated in alcoholic beverages, e.g. beer, wine marinades; liqueur flavoured beef, e.g. rum beef, benedictine beef.
    * Pickled beef plus other flavours including barbecue, cheese, pâté, oysters.
3. **Raw beef with stuffings (3 ideas)**
Objective: to develop a beef product with a flavoursome stuffing suitable for large volume catering as in functions or for lunch-time service.
    * Cuts of beef (e.g. schnitzel-style, beef olive-style), with stuffings including ingredients like cheese.
    * Stuffed beef, using 'boned out' beef cuts.
    * Beef olives.

Prepared Ready-to-Cook Beef Products (3 ideas)

4. **Raw beef with coatings (1 idea)**
Objective: to develop a product suitable for service with a sauce for lunch-time or for a children's menu.
    * Beef chunks/nuggets with different coatings, e.g. batter, crumbs.
5. **Processed beef (2 ideas)**
Objective: to develop a processed beef product suitable for lunch-time service which could compete with the burger or the Bacon, Lettuce, Tomato (BLT).
    * Processed products made from forequarter meat and shaped to be offered with a sauce or in a bread roll, for example, savoury beef patties, beef nuggets, meatballs. A combination with another red meat could be used for some products like the nugget.
    * Beef combinations meat platter, a mixture of a variety of beef products suitable for a complete meal, e.g. a consommé, beef nuggets, served with fruit.

Pre-cooked Beef Products (18 ideas)

6. **Beef cuts ready cooked (3 ideas)**
Objective: to develop a cooked beef product which can be served with minimal labour input, either served cold or requiring minimal reheating.
* Delicate beef cuts either thin circular slices or 'julienne' pieces, cooked and rare.
* Variations on rare, medium rare.... for pre-cooked steaks to guarantee degree of doneness.
* Roasts and stuffed beef as outlined in categories 1 & 2 (e.g. roast sirloin to be served hot, stuffed roast beef, beef olives).

7. **Sauces for beef dishes (3 ideas)**
Objective: to develop a family of flavoursome sauces suitable for service with a variety of beef cuts and products (to provide a mix and match beef plus sauce package).
* Sauces with more beef flavour to replace gravies.
* Sauces for kebabs, satays and beef nuggets. This could include sweeter sauces for children (e.g. sweet and sour sauce).
* Sauces to which extra vegetables can be added to go with stir fry products.

8. **Casserole-style beef dishes (1 idea)**
Objective: to develop a wet dish suitable for holding in a bain marie for lunch-time service.
* Stroganoff with mushrooms and cream.

9. **Pies and pastry products (3 ideas)**
Objective: to develop variations on the beef pie with alternative fillings, suitable either as a main course or for functions.
* Varied fillings for beef pies.
* Pastry jellied pie, e.g. pork pie style.
* Beef in pastry as finger food (e.g. bite sized with filo pastry, sausage roll style of product and mini vol-au-vents).

10. **Processed/pickled/cooked beef for salads (4 ideas)**
To develop flavoursome forms of beef which can be served cold for salads either as entrées or for smorgasbords.
* Pastrami-style product for cold salads, e.g. Malaysian salad.
* Beef salami, beef sausages with different flavours and 'nutritional' characteristics (low salt, high fibre ...) for slicing, with different shapes.
* Strips of beef in thin finger pieces to dip into sauces and dips; variations on this theme including smoked beef in thin strips for shaping (e.g. rolling, twisting) could be served with horseradish.
* 'Beef bits', like bacon bits, for salads.

11. **Processed beef products cooked/ready to re-heat (4 ideas)**
To develop a processed beef product which can be used in conjunction with bread or other food item which serves as an edible pocket/holder for the beef product.
* Savoury beef patties, varieties, e.g. with garlic, herbs, spices, low fat versions of beef patties.
* Beef 'pocket' fillings for pita bread, tacos, crêpes, omelettes.
* Extruded products (e.g. co-extruded beef sausage with cheese, tomato sauce), beef hot dogs plus sauces to serve with them.
* Beef flavoured 'chip' products, either dry, brittle products or french fry style.

APPENDIX 23

PRODUCT CONCEPT DESCRIPTIONS FOR NEW BEEF PRODUCTS

Group A Raw Beef Products

New Beef Cuts

This group includes ideas for new beef cuts which have different physical dimensions to the current range available.

1. **Tender Beef in Thin Slices**

   This is a raw beef product which will be uniformly and thinly sliced to enable the chef to prepare delicate beef dishes. It will be suitable for the creation of tender, light beef dishes which could be offered either as entrées or as lighter main courses like the Japanese dishes sukiyaki and shabu-shabu, notably as alternatives to steaks and other more substantial beef dishes. The slices will be very thin, tender and without visible fat. They will be attractively lean in appearance and will require little or no cooking.

   The product will be marketed to the hotels/motels market segment but will also be attractive to restaurants and cafes. The slices will be packed so that they will be protected from damage and will be easy to separate without tearing. The weight of beef per pack will be 500 g to avoid wastage.

2. **Roasts/Noisettes**

   New cuts will be fashioned to provide roasts with a desirable oval shape and which can be cut into noisettes without falling apart.

   The product will be marketed to the hotels/motels market segment but will also be attractive to restaurants and cafes. The product will be cryovac packed.

Treated Beef Products

This group includes a range of ideas for treatments which will introduce new flavours to beef cuts already available and different textural/dimensional characteristics to processed beef products.

3. **Beef in Marinades**

   The marinades will have a range of flavour combinations, and will be designed to mix and match with a range of raw beef cuts. Flavours may include garlic, chilli and peanut combined with spices like cumin, coriander, cardamom and ginger. Alcohol marinades may include a range of liqueurs/spirits as well as wine. Combinations for beef dishes will be suggested. Raw beef cuts could include:

   i) beef in thin strips for stir fry;

   ii) beef in chunks for example for kebabs;

   ii) beef in the form of steaks or large pieces, especially for alcohol based marinades.

   The product will be ready to cook without further preparation and will be marketed to the hotels/motels and cafes/restaurants market segments.

4. **Flavoured Pickled Beef**

   This is the traditional pickled beef but with new spicy flavour combinations. It will be lean in appearance and have minimal visible fat.

   The product will be marketed to the hotels/motels market segment but will also be attractive to restaurants and cafes. It will be sold in a product weight enabling chefs to purchase several different flavoured products which can be used together to offer a variety of taste sensations.

   The product will be marketed to the hotels/motels and cafes/restaurants market segments. It will be sold chilled.

Group B Prepared Ready-to-Cook Beef Products

5. **Burger Competitor**
This product will be made from processed beef. It will have unique features which distinguish it from the burger both in shape and flavour. For example, it may have the oval shape characteristic of the fricadelle and a flavour which has a hint of a chosen herb like dill or basil. The product will be tender and will not contain excess fat. It will be suitable for serving in a 'pocket' of bread or similar cereal based product to enable it to be eaten by hand. It will take no longer to cook than the burger and so will be suitable for fast lunch-time service.
The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes. It will be sold frozen and packaged in cartons.

6. **Coated Beef Product**
This will be a product which will consist of either a cut of beef or processed/reformed beef, with or without other ingredients, coated in a batter or crumbed mixture. An example of such a product would be a nugget of reformed beef coated with a batter.
This product will be marketed to the hotels/motels and cafes/restaurants market segments. It will be sold as a frozen product in portion controlled sizes/quantities and packaged in cartons.

Group C Pre-cooked Beef Products

Pre-cooked 'untreated' beef cuts
This group includes familiar beef products in a pre-cooked state ready to 'finish' by reheating or to serve chilled.

7. **Pre-cooked Thin Sliced Beef**
This product will be pre-cooked and be uniformly and thinly sliced to enable the chef to prepare delicate 'cold' beef dishes. The slices will be of an oval shape and relatively small in size (no greater than 5 cm x 10 cm) in order to provide slices which do not fall apart easily and which enable a high standard of presentation to be achieved. The beef will be lean in appearance without visible fat, being very suitable for salads and buffets.
This product will be marketed to hotels/motels and cafes/restaurants. The slices will be packed so that they will be protected from damage and will be easy to separate.

8. **Pre-cooked Steaks**
This product will be seared/surface cooked so that it has an attractive appearance. It will be cooked so that on reheating three grades of steak; rare, medium and well done will be available.
This product will be marketed to hotels/motels and cafes/restaurants. The product will be packaged under vacuum, rapidly chilled and sold as a chilled product suitable for reheating using a sous vide water bath.

Group C Pre-cooked Beef Products

Pre-cooked 'Treated' Beef Products
This group includes cooked processed products ready to serve, either chilled or reheated, and 'wet' beef products (beef in a sauce) ready to be incorporated by the chef into a new dish or simply reheated for immediate service.

9. **Pre-cooked Beef Patty**
This product will be pre-cooked ready to be reheated for service. It will enable the chef to save time when large numbers of patties (beefburgers) need to be served quickly, especially for lunch-time service. This product will be marketed to the hotels/motels and cafes/restaurants market segments. It will be packed under vacuum, rapidly chilled and sold as a chilled or frozen product.

10. **Pre-cooked Meat Loaf**
This product will be a finished product ready to serve chilled or to be reheated for service. It will be produced with a cross sectional shape resembling that of the classical terrine and will consist of the beef mixture layered with contrasting coloured vegetables like spinach or watercress to allow attractive presentation.
This product will be marketed to the hotels/motels and cafes/restaurants market segments. It will be packed under vacuum, either whole or sliced, rapidly chilled and sold as a chilled product.

11. **Casserole of Beef e.g. Beef Stroganoff**
This product will be a 'wet' beef dish containing a substantial proportion of beef together with other fruit and/or vegetable ingredients, for example, olives and dried apricots, added to provide variety in flavour and texture. It will be suitable for fast lunch-time service and also for functions where large numbers of people are being catered for. It will be pre-cooked ready to be reheated for service. The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes. It will be sold in 5 kg packs either frozen, refrigerated or in aseptic shelf-stable packs.

12. **Beef Pie Filling**
A pie filling, rather than a complete pie, will provide flexibility for distinctive pies to be prepared with the chef's own style of casing or pie topping. The filling will comprise of beef in a sauce base with a minimum quantity of vegetables added for flavour and allowing for the addition of further vegetables, for example, mushrooms, by the chef to create a variety of pies. It will be pre-cooked ready to be reheated for service. The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes. It will be sold in 5 kg packs either frozen, refrigerated or in aseptic shelf-stable packs.

13. **Beef 'Pocket' Filling**
This product will provide the chef with flexibility to use his/her own choice of 'pocket' for the filling. The filling will be based on either lean beef mince or thin beef strips presented in a salsa or bolognaise style of sauce and suitable for serving in a tortilla, taco, cannelloni type of 'hollow' cereal product. It will be pre-cooked ready to be reheated for service.
The product will be marketed to the hotels/motels market segment but will also be attractive to some restaurants and cafes. It will be sold chilled and vacuum packaged in 500 g packs.

14. **Cooked 'Beef Bits' for Salads**
This will be available in small pieces for sprinkling on salads or in larger pieces for rolling and twisting to serve in attractive and interesting combinations with dips.
The product will be marketed to the hotels/motels market segment but will also be attractive to some cafes and restaurants.

APPENDIX 24

COMPANY SCREENING FACTOR SCORES AWARDED BY MANAGEMENT OF THE TWO COMPANIES

Beef Product Idea	Company A			Company B		
	Technical Factors	Demand	TOTAL SCORE	Technical Factors	Demand	TOTAL SCORE
1. Tender beef in thin slices	39	3.5	42.5			
2. Roasts/noisettes	27	4	31			
3. Beef in marinades						
i) Stir fry beef in marinades				34.5	4	38.5
ii) Beef chunks in marinades				34.5	4	38.5
iii) Beef in alcohol marinade				34.5	4	38.5
4. Flavoured pickled beef	33	6	39			
5. Burger competitor				32.5	3	35.5
6. Coated beef product				31	6	37
7. Pre-cooked thin sliced beef				23	4.5	28.5
8. Pre-cooked steaks				28	2.5	30.5
9. Pre-cooked beef patty				34	2.5	35.5
10. Pre-cooked meat loaf				32	4.5	33
11. Casserole of beef				23	4.5	27.5
12. Beef pie filling				19.5	4	23.5
13. Beef 'pocket' fillings				19.5	4	23.5
14. Cooked 'beef bits' for salads				19.5	4.5	24

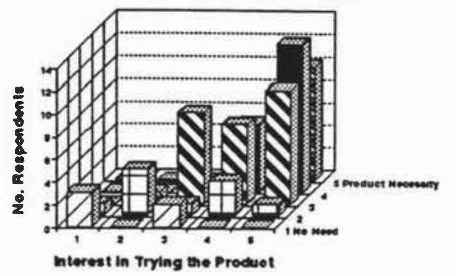
* Product ideas 1, 2 and 4 were scored by the General Manager of Company A and 3, and 5-14 by the Marketing Manager and the Food Technologist of Company B.

APPENDIX 25

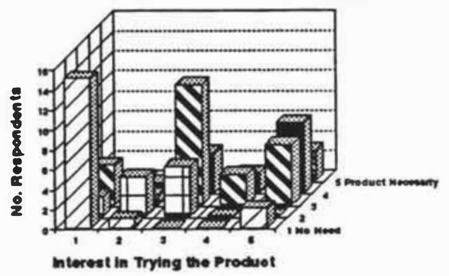
INTEREST IN TRYING VERSUS PRODUCT BENEFITS FOR THE FIVE NEW BEEF PRODUCT CONCEPTS

The relationships between the product benefits offered by the five new beef product concepts and the interest of the menu planning decision makers in trying the new beef products are shown graphically in three dimensions. For ease of comparison the graphs for each product benefit are set out side by side for the five product concepts across two double pages.

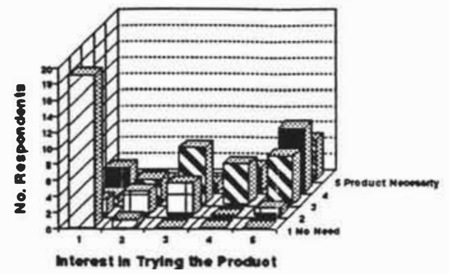
Tender Beef in Thin Slices
Need for Product vs Interest in Trying



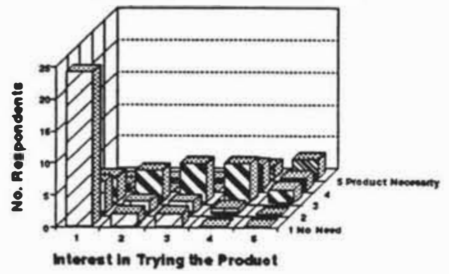
Flavoured Pickled Beef
Need for Product vs Interest in Trying



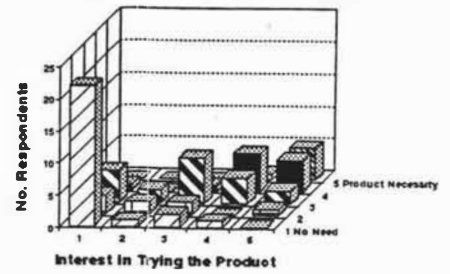
Fricadelle
Need for Product vs Interest in Trying



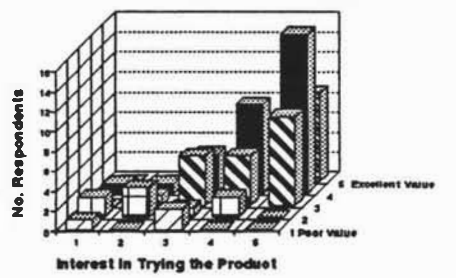
Coated Beef Product
Need for Product vs Interest in Trying



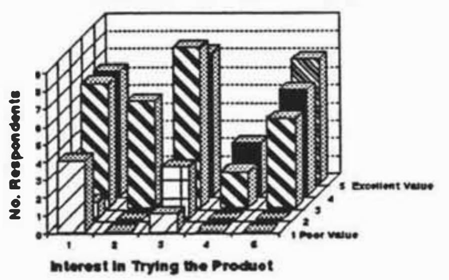
Meat Loaf
Need for Product vs Interest in Trying



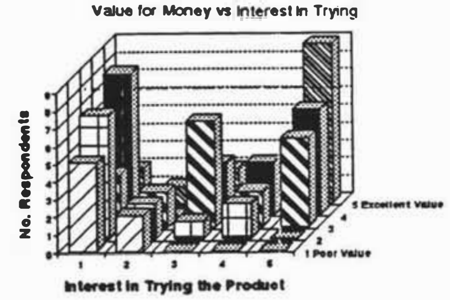
Tender Beef in Thin Slices
Value for Money vs Interest in Trying



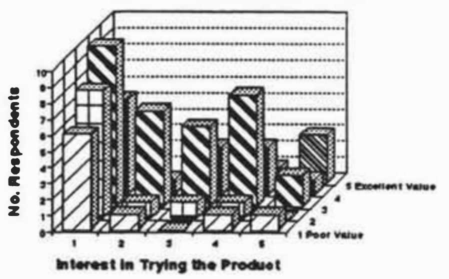
Flavoured Pickled Beef
Value for Money vs Interest in Trying



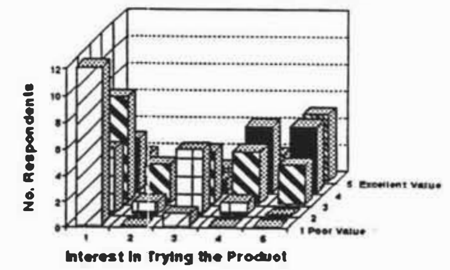
Fricadelle
Value for Money vs Interest in Trying



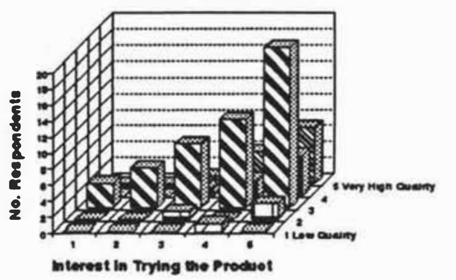
Coated Beef Product
Value for Money vs Interest in Trying



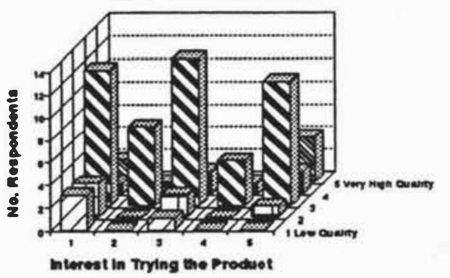
Meat Loaf
Value for Money vs Interest in Trying



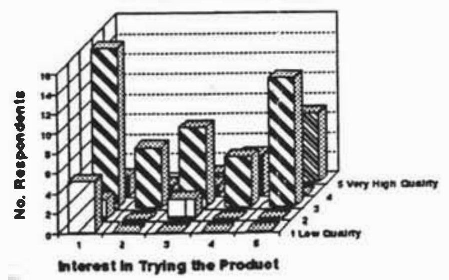
Tender Beef in Thin Slices
Quality vs Interest in Trying



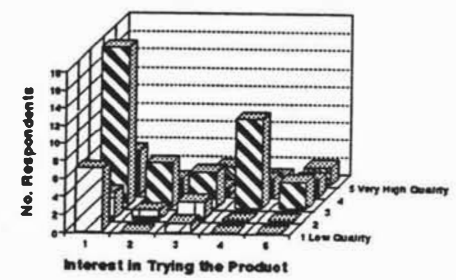
Flavoured Pickled Beef
Quality vs Interest in Trying



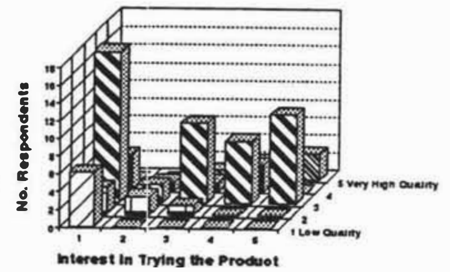
Fricadelle
Quality vs Interest in Trying



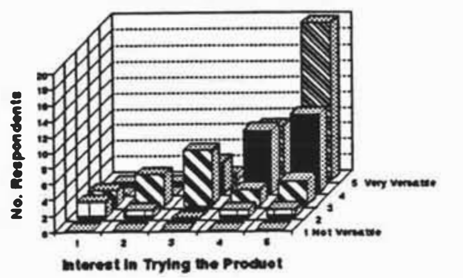
Coated Beef Product
Quality vs Interest in Trying



Meat Loaf
Quality vs Interest in Trying

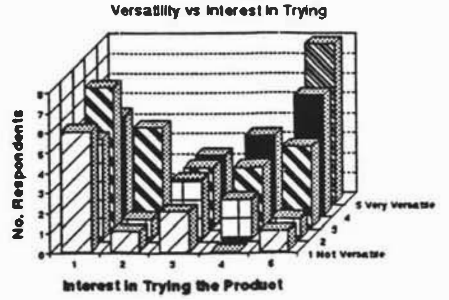


Tender Beef in Thin Slices
Versatility vs Interest in Trying

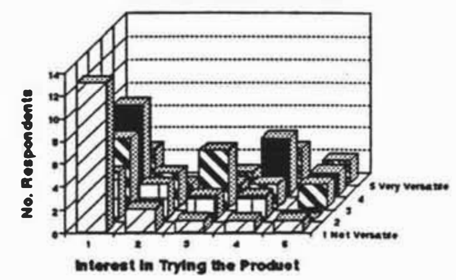


Flavoured Pickled Beef
Versatility vs Interest in Trying

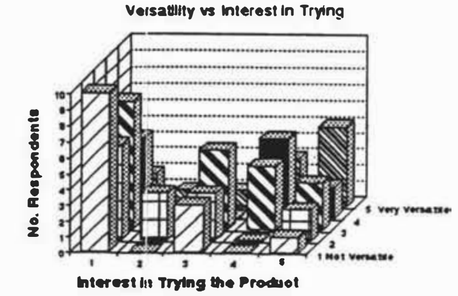
Fricadelle
Versatility vs Interest in Trying



Coated Beef Product
Versatility vs Interest in Trying



Meat Loaf
Versatility vs Interest in Trying

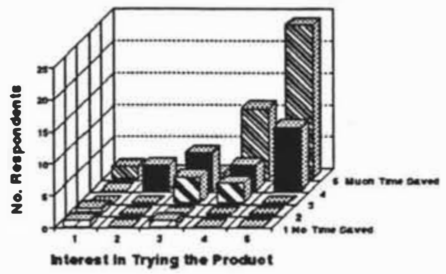


N=73 Respondents

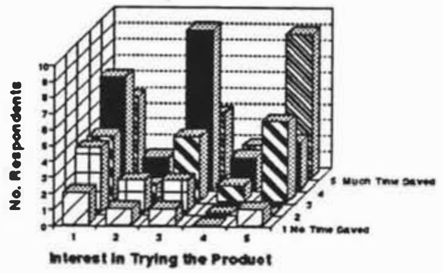
APPENDIX 25 continued

INTEREST IN TRYING VERSUS PRODUCT BENEFITS FOR THE FIVE NEW BEEF PRODUCT CONCEPTS

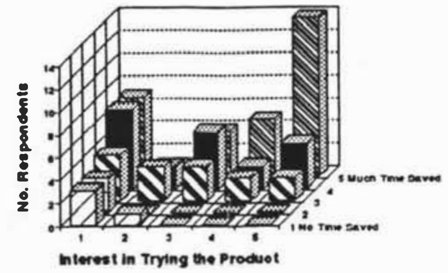
Tender Beef In Thin Slices
Time Saved vs Interest In Trying



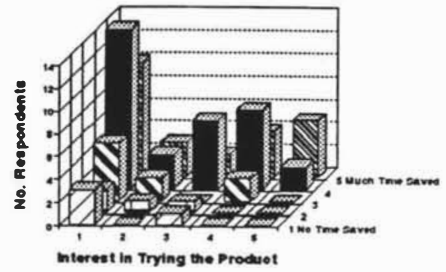
Flavoured Pickled Beef
Time Saved vs Interest In Trying



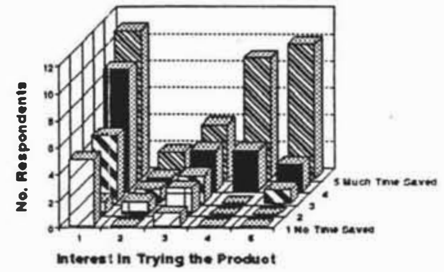
Fricadelle
Time Saved vs Interest In Trying



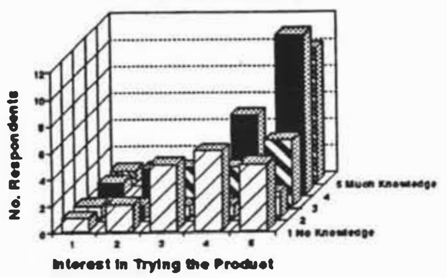
Coated Beef Product
Time Saved vs Interest In Trying



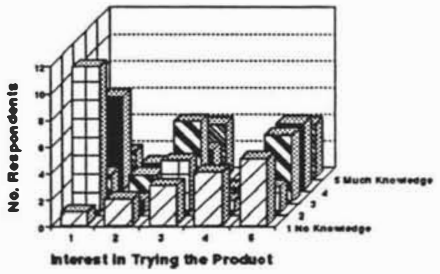
Meat Loaf
Time Saved vs Interest In Trying



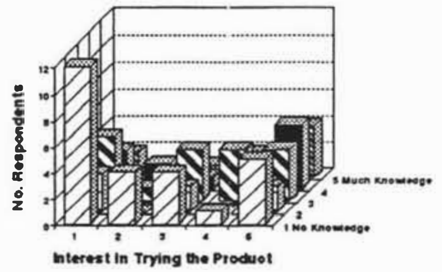
Tender Beef In Thin Slices
Knowledge of Product vs Interest



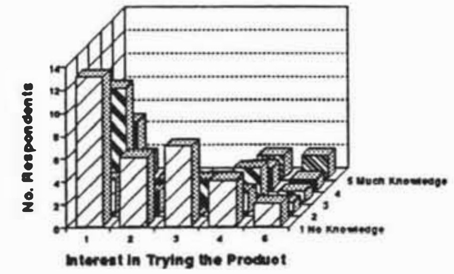
Flavoured Pickled Beef
Knowledge of Product vs Interest



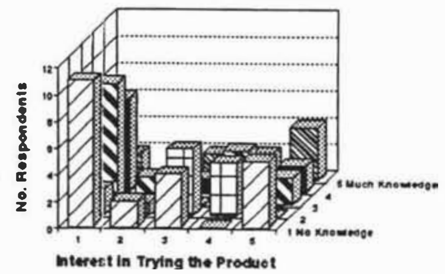
Fricadelle
Knowledge of Product vs Interest



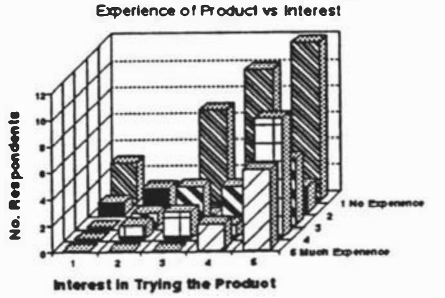
Coated Beef Product
Knowledge of Product vs Interest



Meat Loaf
Knowledge vs Interest in Trying

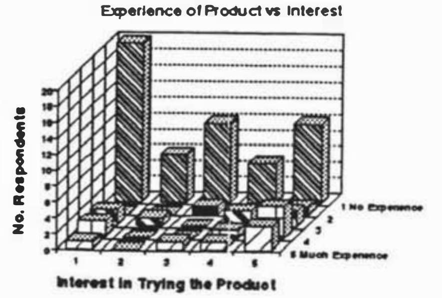


Tender Beef In Thin Slices
Experience of Product vs Interest

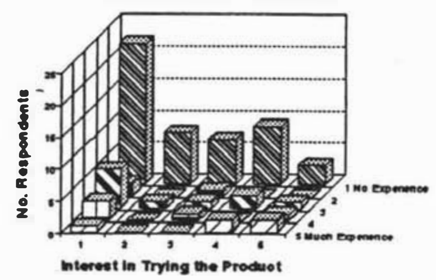


Flavoured Pickled Beef
Experience of Product vs Interest

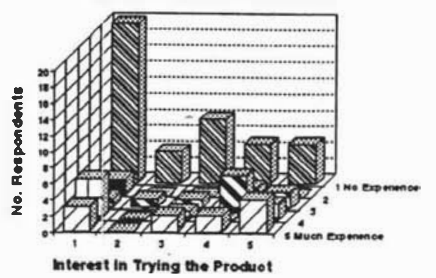
Fricadelle
Experience of Product vs Interest



Coated Beef Product
Experience of Product vs Interest



Meat Loaf
Experience of Product vs Interest

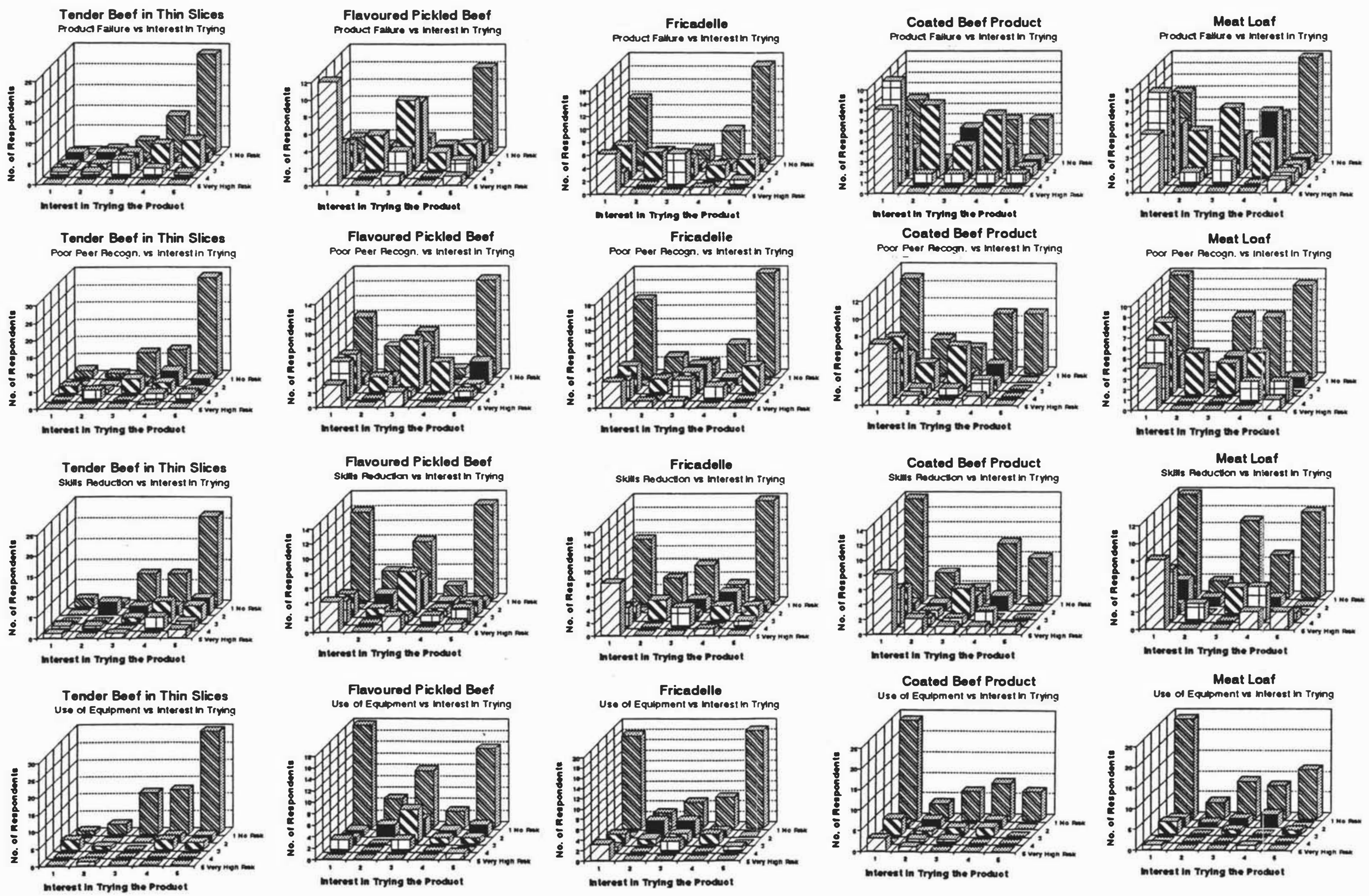


N = 73 Respondents

APPENDIX 26

INTEREST IN TRYING VERSUS PRODUCT RISKS FOR THE FIVE NEW BEEF PRODUCT CONCEPTS

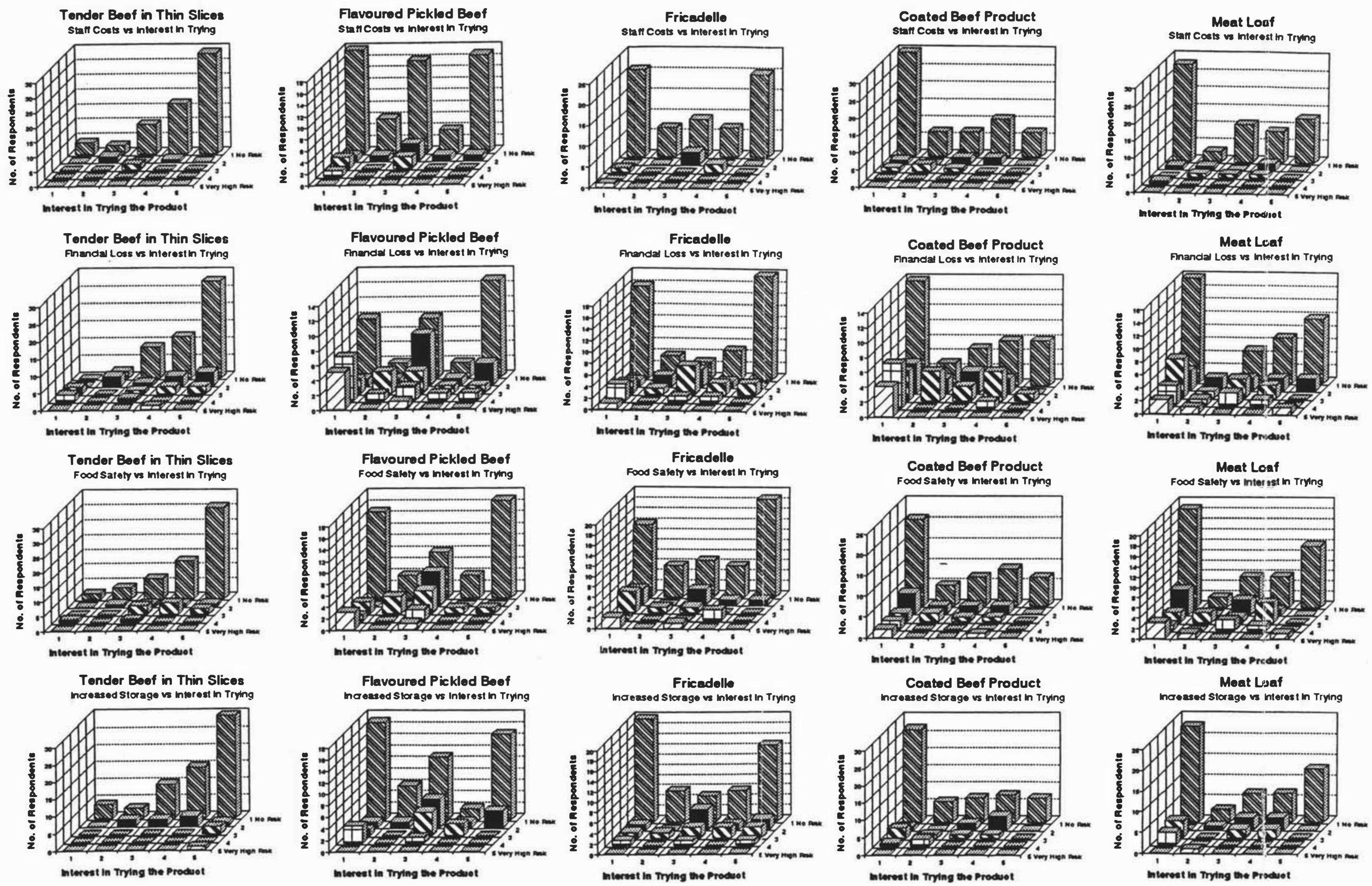
The relationships between the product risks offered by the five new beef product concepts and the interest of the menu planning decision makers in trying the new beef products are shown graphically in three dimensions. For ease of comparison the graphs for each product risk are set out side by side for the five product concepts across two double pages.



N = 73 Respondents

APPENDIX 26 continued

INTEREST IN TRYING VERSUS PRODUCT RISKS FOR THE FIVE NEW BEEF PRODUCT CONCEPTS



N=73 Respondents

APPENDIX 27

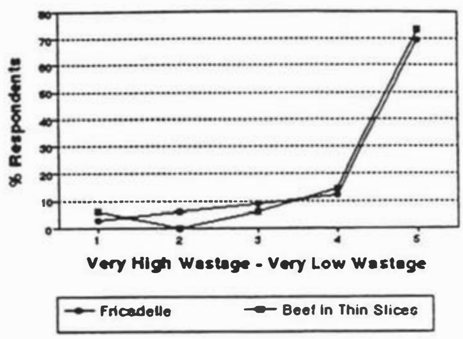
HEDONIC SCORES FOR THE FOUR FORMS OF PRESENTATION OF THE TWO PRODUCT PROTOTYPES

Product Presentation	Liking Scores (6-9) for the Two Products for each Form of Presentation			
	Overall Eating Experience % (Number) Respondents	Overall Appearance % (Number) Respondents	Overall Flavour % (Number) Respondents	Overall Texture % (Number) Respondents
Tender Beef in Thin Slices: Beef and Mushroom Roulades N=72	60% (42)	61% (44)	71% (51)	60% (43)
Tender Beef in Thin Strips: Teriyaki Beef N=49	67% (29)	69% (33)	84% (41)	51% (25)
Fricadelle: served in a roll N=52	69% (36)	69% (36)	65% (34)	69% (36)
Fricadelle: two served without a roll N=59	78% (46)	70% (41)	76% (45)	73% (43)
Fricadelle: combined results for two dishes. N=111	74% (82)	69% (77)	71% (79)	71% (79)

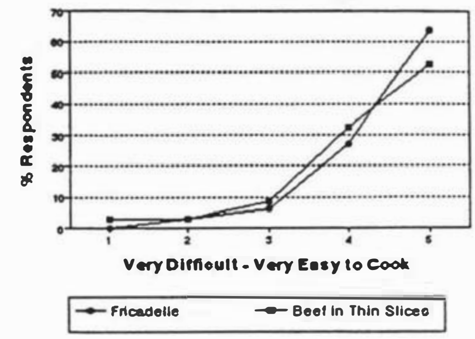
APPENDIX 28

DISTRIBUTION OF THE PRODUCT BENEFIT SCORES FOR THE TWO PRODUCT PROTOTYPES

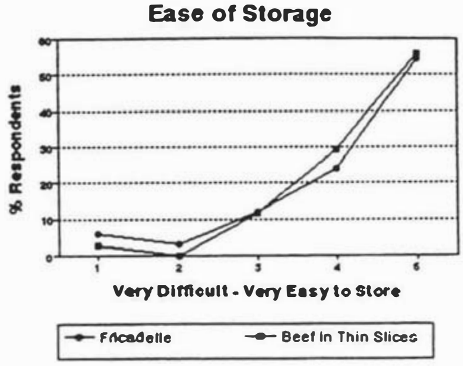
Wastage



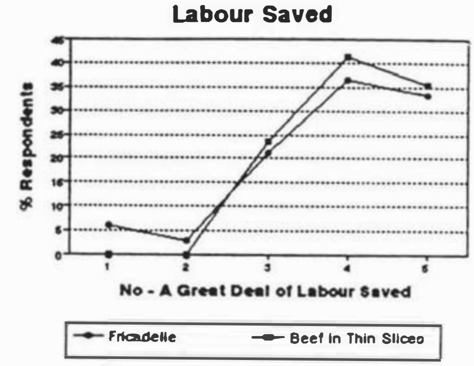
Ease of Cooking



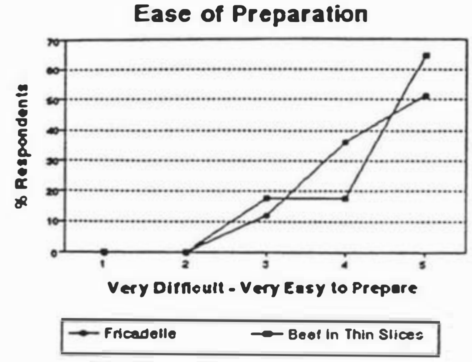
Ease of Storage



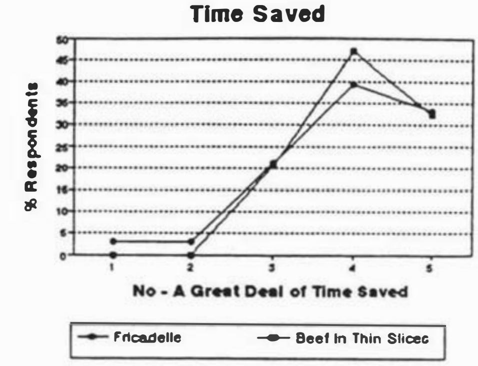
Labour Saved



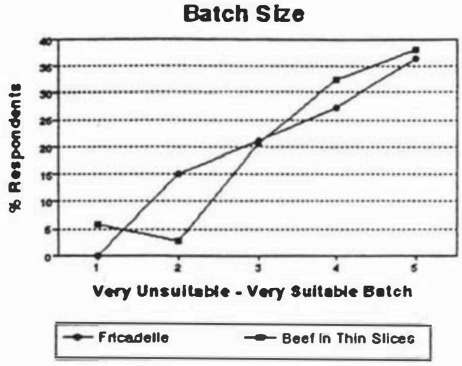
Ease of Preparation



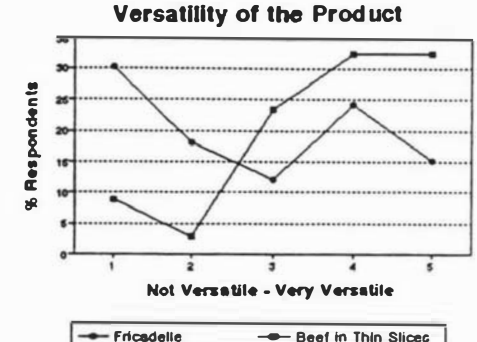
Time Saved



Batch Size



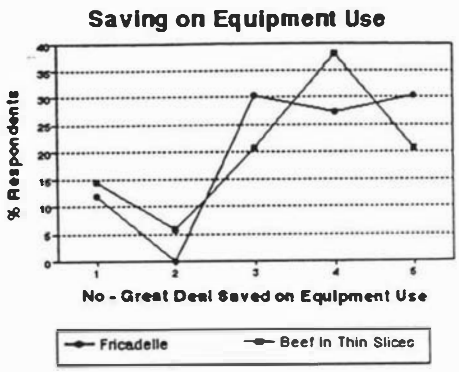
Versatility of the Product

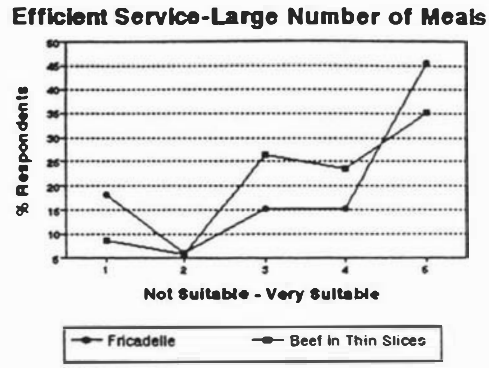


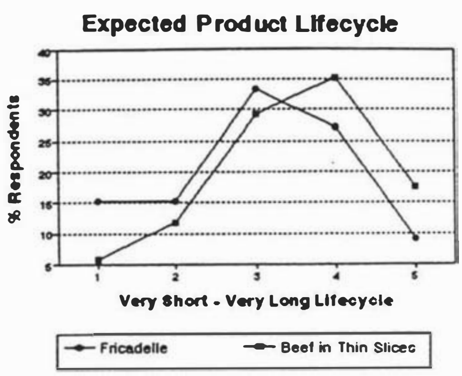
N=34 Respondents

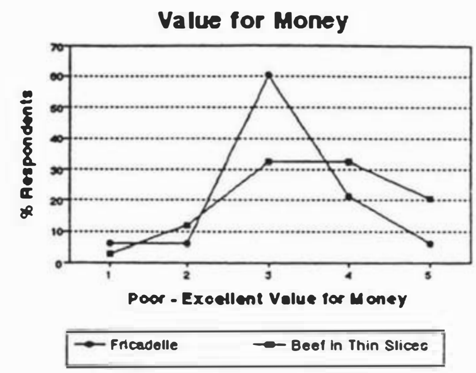
APPENDIX 28 continued

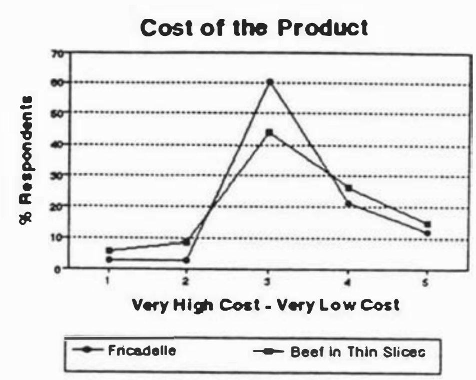
DISTRIBUTION OF THE PRODUCT BENEFIT SCORES FOR THE TWO PRODUCT PROTOTYPES

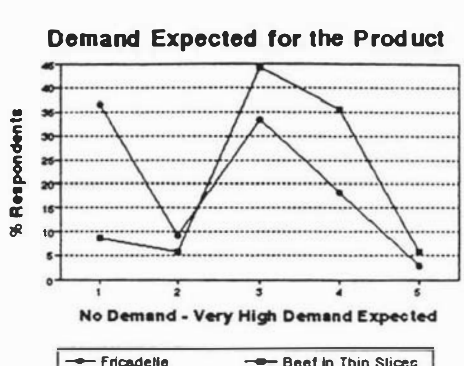


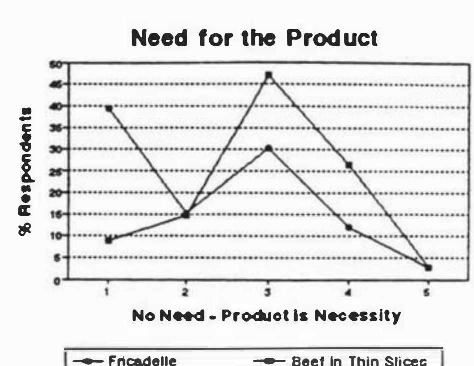










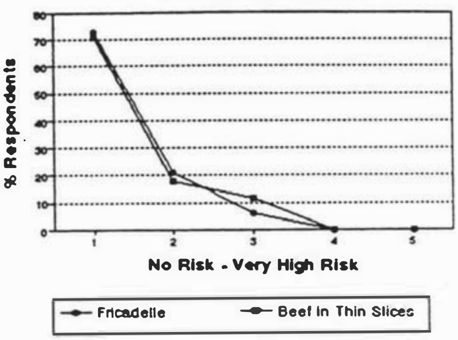


N=34 Respondents

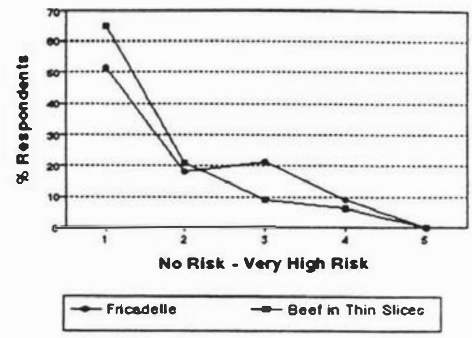
APPENDIX 29

DISTRIBUTION OF THE PRODUCT RISK SCORES FOR THE TWO PRODUCT PROTOTYPES

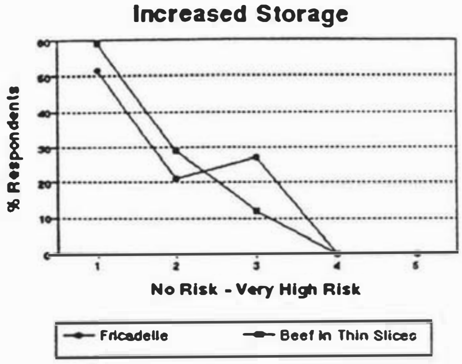
Increased Staff Costs



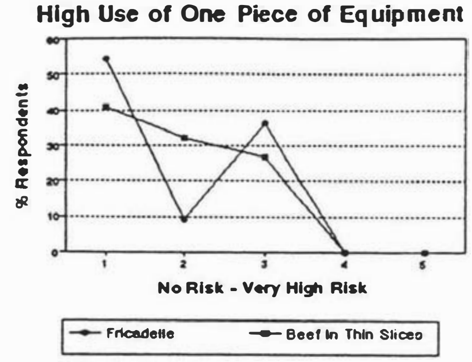
Food Safety Risk



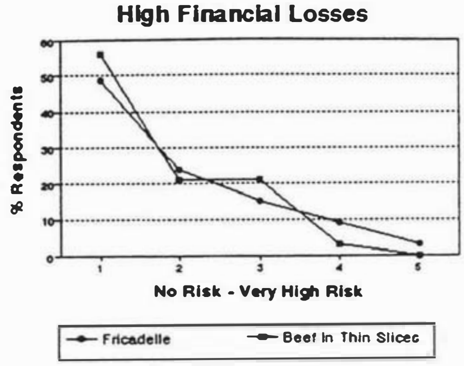
Increased Storage



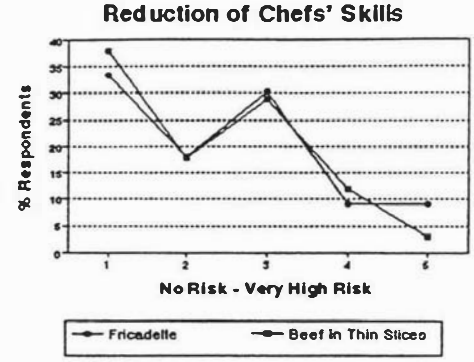
High Use of One Piece of Equipment



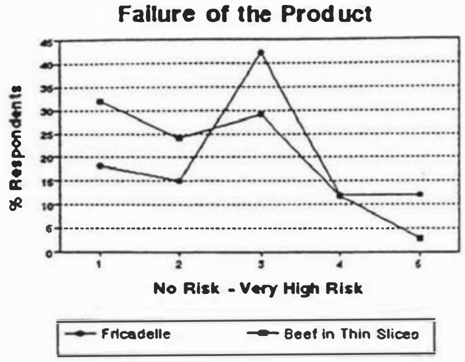
High Financial Losses



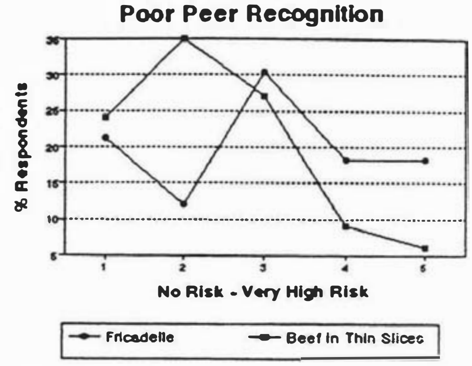
Reduction of Chefs' Skills



Failure of the Product



Poor Peer Recognition



N=34 Respondents for the Tender Beef in Thin Slices N=33 Respondents for the Fricadelle

APPENDIX 30

PERSONNEL INVOLVED BUT WITH NO INFLUENCE IN DECIDING UPON PURCHASING SPECIFICATIONS

Personnel	Personnel Involved % (Number) of Operations	Personnel Always Involved % (Number) of Operations	Personnel Very Influential % (Number) of Operations
Kitchen & Service Staff			
Other Kitchen Staff	8 (4)	0 (0)	0 (0)
Chefs de Partie	6 (3)	2 (1)	0 (0)
Commis/Cooks	6 (3)	2 (1)	0 (0)
Apprentices	6 (3)	2 (1)	0 (0)
Maître d'Hôtel	4 (2)	0 (0)	0 (0)
Service Staff	4 (2)	0 (0)	0 (0)
Management			
Catering Manager	4 (2)	0 (0)	0(0)
Board of Directors	2 (1)	0 (0)	0 (0)
Others	4 (2)	2 (1)	0 (0)
N=48 Operations			

APPENDIX 31

PERSONNEL INVOLVED BUT WITH LITTLE INFLUENCE IN DISH EVALUATION

Personnel	Personnel Involved % (Number) of Operations	Personnel Always Involved % (Number) of Operations	Personnel Very Influential % (Number) of Operations
Kitchen & Service Staff			
Apprentices	33 (16)	6 (3)	2 (1)
Other Kitchen Staff	27 (13)	0 (0)	0 (0)
Maître d'Hôtel	27 (13)	8 (4)	2 (1)
Service Staff	27 (13)	2 (1)	2 (1)
Chefs de Partie	23 (11)	4 (2)	2 (1)
Commis/Cooks	21 (10)	8 (4)	2 (1)
Management			
Catering Manager	8 (4)	2 (1)	4 (2)
Managing Director	8 (4)	0 (0)	2 (1)
Head Office Staff	4 (2)	0 (0)	0 (0)
Board of Directors	2 (1)	0 (0)	0 (0)
Purchasing Department			
Purchasing Manager	8 (4)	0 (0)	0 (0)
Purchasing Officers	4 (2)	0 (0)	0 (0)
Others	8 (4)	0 (0)	2 (1)
N=48 Operations			

APPENDIX 32

INVOLVEMENT OF PERSONNEL (OTHER THAN THE RESPONDENTS) IN EVALUATION OF THE TWO NEW BEEF PRODUCTS

Personnel	**Involvement in Dish Evaluation**	
	Tender Beef in Thin Slices % (Number) of Responses	**Fricadelle % (Number) of Responses**
Senior Chefs		
Head Chefs	5 (3)	6 (3)
Sous Chefs	23 (13)	27 (13)
Kitchen and Service Staff		
Chef de Partie	4 (2)	2 (1)
Commis	5 (3)	6 (3)
Apprentices	12 (7)	10 (5)
Other Kitchen Staff	9 (5)	6 (3)
Maître d'Hôtel	2 (1)	0 (0)
Service Staff	5 (3)	12 (6)
Management		
Food and Beverage Manager	2 (1)	2 (1)
General Manager	12 (7)	10 (5)
Assistant Manager	2 (1)	0 (0)
Owner Operator	9 (5)	6 (3)
Catering Manager	0 (0)	2 (1)
Purchasing Department		
Purchasing Manager	2 (1)	0 (0)
Others		
Regular Customers	7 (4)	4 (2)
Others	2 (1)	6 (3)
* Multiple responses were made	*N=57 responses for 28 operations**	*N=49 responses for 27 operations**

APPENDIX 33
METHODS OF MENU REVISION USED BY MENU PLANNING DECISION MAKERS

Methods of Menu Revision	**Original Outlets % (Number)**	**All Outlets % (Number)**
Completely revise and offer specials	25 (18)	29 (33)
Revise conservatively and offer specials	21 (15)	21 (24)
Revise conservatively	25 (18)	19 (22)
Completely revise	15 (11)	17 (19)
No major revision but add new dishes	11 (8)	11 (13)
Never change the menu	3 (2)	3 (3)
	N=72 outlets for 31 respondents	*N=114 outlets for 48 respondents*

APPENDIX 34
FREQUENCY OF MAJOR MENU CHANGES

Frequency of Menu Changes	**Original Outlets % (Number)**	**All Outlets % (Number)**
At least once every 3 months	56 (35)	53 (52)
Every 4-6 months	27 (17)	27 (27)
Every 7-12 months	14 (9)	14 (14)
Less than once a year	3 (2)	6 (6)
	N=63 outlets for 31 respondents	*N=99 outlets for 48 respondents*

APPENDIX 35
FREQUENCY OF THE INTRODUCTION OF NEW DISHES OR SPECIALS

Frequency New Dishes/Specials Offered	**Original Outlets % (Number)**	**All Outlets % (Number)**
Every day/more than once a week	37 (16)	46 (33)
About once a week	42 (18)	36 (26)
About once a fortnight	5 (2)	4 (3)
About once a month	9 (4)	8 (6)
Less than once a month	7 (3)	6 (4)
	N=43 outlets for 31 operations	*N=72 outlets for 48 operations*

APPENDIX 36

NEW INGREDIENTS PURCHASED FOR MENU CHANGES

Number of New Ingredients	At Last Menu Change		Between Menu Changes	
	Original Outlets % (Number)	All Outlets % (Number)	Original Outlets % (Number)	All Outlets % (Number)
0-10	54 (39)	52 (59)	75 (54)	75 (85)
11-20	26 (19)	24 (27)	24 (17)	20 (23)
21-30	15 (11)	17 (19)	1 (1)	5 (6)
31-40	4 (3)	5 (6)	0 (0)	0 (0)
>40	0 (0)	3 (3)	0 (0)	0 (0)
	N=72 outlets	*N=114 outlets*	*N=72 outlets*	*N=114 outlets*

APPENDIX 37

FREQUENCY OF USE OF METHODS OF MENU ANALYSIS

Methods of Menu Analysis	Proportion of Operations using the Method >60% of the Time Menu Analysis is Used	
	Original Respondents % (Number)	All Respondents % (Number)
Customer Feedback	71 (22)	73 (35)
Food Cost Percentage	65 (20)	65 (31)
Sales Records	48 (15)	58 (28)
Subjective Evaluation	42 (13)	48 (23)
Popularity Index	30 (9)	29 (14)
Menu Engineering	23 (7)	29 (14)
	N=31 respondents	*N=48 respondents*

APPENDIX 38

FREQUENCY OF USE OF SOURCES OF INFORMATION

Sources of Information	Proportion of Operations Using the Sources 100-61% of Time	
	Original Respondents % (Number)	All Respondents % (Number)
Sales representatives of distributors	29 (9)	31 (15)
Food processing representatives	10 (3)	17 (8)
Persons in own foodservice operation	10 (3)	11 (5)
Business/magazine advertisements	10 (3)	11 (5)
Customer suggestions	3 (1)	8 (4)
Other	3 (1)	8 (4)
Articles in trade journals	10 (3)	6 (3)
Product literature from food processing company	6 (2)	4 (2)
Trade shows	6 (2)	4 (2)
Suppliers promotions	0 (0)	2 (1)
Persons in other foodservice operations	3 (1)	2 (1)
Professional association gatherings/meetings	0 (0)	2 (1)
	N=31 respondents	*N=48 respondents*

APPENDIX 39
INFLUENCE OF SOURCES OF INFORMATION

Sources of Information	Very Influential Sources Scores (4+5)	
	Original Respondents % (Number)	All Respondents % (Number)
Sales representatives of distributors	42 (13)	38 (18)
Persons in own foodservice operation	39 (12)	36 (17)
Suppliers promotions	35 (11)	36 (17)
Customer suggestions	23 (7)	31 (15)
Articles in trade journals	30 (9)	29 (14)
Persons in other foodservice operations	19 (6)	19 (9)
Food processing representatives	19 (6)	17 (8)
Business/magazine advertisements	16 (5)	17 (8)
Product literature from food processing company	16 (5)	15 (7)
Professional association gatherings/meetings	14 (4)	15 (7)
Trade shows	16 (5)	15 (7)
Other	6 (2)	10 (5)
	N=31 respondents	*N=48 respondents*

APPENDIX 40
SUPPLIERS USED FOR THE THREE NEW BEEF PRODUCT TYPES

Supplier	Raw Beef % (Number) of Operations		Prepared Ready-to Cook Beef % (Number) of Operations		Pre-cooked Beef % (Number) of Operations	
	O. R.	T. R.	O. R.	T. R.	O. R.	T. R.
Retail Butcher	13 (4)	15 (7)	13 (4)	13 (6)	7 (2)	4 (2)
Wholesaler	84 (26)	83 (40)	29 (9)	29 (14)	16 (5)	21 (10)
Distributor	3 (1)	2 (1)	23 (7)	21 (10)	26 (8)	25 (12)
Meat Processor	0 (0)	0 (0)	10 (3)	6 (3)	13 (4)	10 (5)
No Purchases Made	0(0)	0 (0)	26 (8)	31 (15)	39 (12)	40 (19)
	N=31	*N=48*	*N=31*	*N=48*	*N=31*	*N=48*

KEY
O. R. Original sample of respondents who participated in all three surveys.
T. R. Total sample of respondents who participated in Survey 2.

APPENDIX 41
SUPPLIER LOYALTY FOR THE THREE NEW BEEF PRODUCT TYPES

Frequency the Same Supplier is Used for New Beef Products	Raw Beef % (Number) of Operations		Prepared Ready-to-Cook Beef % (Number) of Operations		Pre-cooked Beef % (Number) of Operations	
	O. R.	T. R.	O. R.	T. R.	O. R.	T. R.
Never	0 (0)	2 (1)	7 (2)	6 (3)	10 (3)	9 (4)
Occasionally	13 (4)	9 (4)	16 (5)	11 (5)	16 (5)	11 (5)
Regularly	39 (12)	40 (19)	36 (11)	32 (15)	26 (8)	26 (12)
Always	48 (15)	47 (22)	26 (8)	30 (14)	26 (8)	30 (14)
No Purchases	0 (0)	2 (1)	16 (5)	21 (10)	23 (7)	26 (12)
	N=31	*N=47*	*N=31*	*N=47*	*N=31*	*N=47*

KEY
O. R. Original sample of respondents who participated in all three surveys.
T. R. Total sample of respondents who participated in Survey 2.

APPENDIX 42
PERSONNEL INVOLVED AND INFLUENTIAL IN DECIDING UPON PURCHASING SPECIFICATIONS

Personnel	Personnel Involved (Score 5)		Personnel Influential (Score 5)	
	Original Operations % (Number)	Total Operations in Survey 2 % (Number)	Original Operations % (Number)	Total Operations in Survey 2 % (Number)
'Chefs in Charge'				
Executive Chef	48 (15)	48 (23)	48 (15)	48 (23)
Head Chef	36 (11)	46 (22)	39 (12)	48 (23)
Sous Chefs	16 (5)	13 (6)	13 (4)	10 (5)
Chef/Owner Operator	23 (7)	15 (7)	23 (7)	15 (7)
Management				
General Manager	3 (1)	8(4)	3 (1)	8 (4)
Food and Beverage Manager	3 (1)	2 (1)	3 (1)	2 (1)
Purchasing Department				
Purchasing Manager	10 (3)	8 (4)	10 (3)	8 (4)
Purchasing Officer	3 (1)	2 (1)	3 (1)	2 (1)
	N=31	*N=48*	*N=31*	*N=48*

APPENDIX 43
STEPS USED IN THE MENU PLANNING PROCESS

	Steps in Menu Planning	Proportion of Respondents Using the Steps		Proportion of Respondents using the steps 61 - 100% of the Time	
		O. R. in Survey 2 % (Number)	T. R. in Survey 2 % (Number)	O. R. in Survey 2 % (Number)	T. R. in Survey 2 % (Number)
	Practical Development of Dishes				
1	Costing the Standard Recipe	90 (28)	92 (44)	58 (18)	65 (31)
2	Feedback on Product Performance	84 (26)	81 (39)	65 (20)	64 (30)
3	Ideas for New Dishes	77 (24)	77 (37)	48 (15)	50 (24)
4	Recipe Testing	68 (21)	71 (34)	39 (12)	46 (22)
5	Testing Ingredients and Products	65 (20)	69 (33)	29 (9)	40 (19)
6	Choosing Ingredients	61 (19)	60 (29)	33 (10)	40 (19)
7	Evaluating the Trial Dishes	52 (16)	58 (28)	32 (10)	40 (19)
8	Choosing the Best New Dish Ideas	52 (16)	56 (27)	26 (8)	33 (16)
9	Completing the New Menu	48 (15)	56 (27)	29 (9)	35 (17)
	The Standard Recipe				
1	Recipe Formulation	45 (14)	48 (23)	26 (8)	25 (12)
2	Finalising the Standard Recipe	42 (13)	46 (22)	29 (9)	35 (17)
3	Writing the Standard Recipe	36 (11)	42 (20)	19 (6)	27 (13)
	Supplier Relationship				
1	Finding Suppliers	48 (15)	44 (21)	23 (7)	21 (10)
2	Finalising the Purchasing Specifications	36 (11)	44 (21)	23 (7)	29 (14)
3	Requesting Quotations	38 (12)	42 (20)	30 (9)'	30 (14)*
4	'Make or Buy' Decisions	36 (11)	40 (19)	13 (4)	17 (8)
5	Finalising the Suppliers	36 (11)	40 (19)	23 (7)	29 (14)
6	Deciding on the Purchase Order Routine	32 (10)	33 (16)	16 (5)	21 (10)
7	Writing Ingredient Specifications	26 (8)	29 (14)	13 (4)	15 (7)
8	Writing Purchasing Specifications	16 (5)	23 (11)	10 (3)	15 (7)
9	Others	3 (1)	2 (1)	3 (1)	2 (1)
		N=31	*N=48*	*N=31* ' *N=30*	*N=48* * *N=47*

Key: O. R. Original sample of respondents who participated in all three surveys.
T. R. Total sample of respondents who participated in Survey 2.

APPENDIX 44

MENU PLANNING DECISION MAKERS' INTEREST IN TRYING THE TENDER BEEF IN THIN SLICES AND PURCHASE INTENTION

Interest in Trying	Product Concept % (Number) of Respondents	Purchase Intention	Product Prototype % (Number) of Respondents
Very Interested 5	52 (16)	Definitely would buy	13 (4)
4	29 (9)	Probably would buy	43 (13)
3	13 (4)	Maybe buy/maybe not buy	17 (5)
2	3 (1)	Probably would not buy	13 (4)
Not interested 1	3 (1)	Definitely would not buy	13 (4)
	N=31		*N=30*

APPENDIX 45

MENU PLANNING DECISION MAKERS' INTEREST IN TRYING THE FRICADELLE AND PURCHASE INTENTION

Interest in Trying	Product Concept % (Number) of Respondents	Purchase Intention	Product Prototype % (Number) of Respondents
Very Interested 5	32 (10)	Definitely would buy	10 (3)
4	13 (4)	Probably would buy	17 (5)
3	16 (5)	Maybe buy/maybe not buy	19 (6)
2	10 (3)	Probably would not buy	17 (5)
Not interested 1	29 (9)	Definitely would not buy	35 (10)
	N=31		*N=29*

APPENDIX 46

MENU PLANNING DECISION MAKERS' HEDONIC SCORES FOR LIKING OF THE TWO PRODUCTS

Product Sensory Attribute	Liking Scores (6-9) for Tender Beef in Thin Slices % (Number) of Respondents	Liking Scores (6-9) for the Fricadelle % (Number) of Respondents
Overall Eating Experience	77 (24)	42 (13)
Overall Appearance	81 (25)	36 (11)
Overall Flavour	81 (25)	52 (16)
Overall Texture	68 (21)	36 (11)
N=31 Respondents		

APPENDIX 47

'JUST RIGHT' SCORES FOR THE TENDER BEEF IN THIN SLICES AND THE FRICADELLE AWARDED BY THE ORIGINAL 31 MENU PLANNING DECISION MAKERS

Product Attribute	Scale Used		Scores (2-4) % (Number)	Score 3 % (Number)	Comments for Score 3 < 50%
	Extremely (1)	Extremely (5)			
Tender Beef in Thin Slices: Raw Product					
Colour	Red	Brown	90 (28)	58 (18)	
Grain	Coarse	Fine	97 (30)	55 (17)	
Leanness	Fatty	Lean	84 (26)	42 (13)	lean
Connective Tissue	Large Amount	Small Amount	77 (24)	39 (12)	
Shape	Irregular	Regular	87 (27)	61 (19)	
Length	Short	Long	100 (31)	68 (21)	
Breadth	Narrow	Wide	100 (31)	81 (25)	
Thickness	Thin	Thick	84 (26)	52 (16)	
Tender Beef in Thin Slices: Cooked Product					
Aroma	Weak	Strong	97 (30)	52 (16)	
Flavour	Weak	Strong	90 (28)	65 (20)	
Tenderness	Tender	Tough	81 (25)	42 (13)	
Juiciness	Dry	Juicy	94 (29)	48 (15)	
Fricadelle: Cooked Product					
Colour	Pale	Dark	81 (25)	29 (9)	pale
Size	Small	Large	100 (31)	71 (22)	
Thickness	Thin	Thick	94 (29)	52 (16)	no scores of 4 (thin)
Aroma	Weak	Strong	97 (30)	48 (15)	weak
Flavour	Weak	Strong	87 (27)	55 (17)	
Tenderness	Tender	Rubbery	87 (27)	55 (17)	
Crumbliness	Crumbly	Firm	97 (30)	52 (16)	
Moistness	Dry	Moist	97 (30)	55 (17)	
N=31 Respondents					

APPENDIX 48

COOKING METHODS NOMINATED AS SUITABLE FOR THE TENDER BEEF IN THIN SLICES BY THE ORIGINAL MENU PLANNING DECISION MAKERS IN SURVEYS 1 AND 3

Cooking Method	Product Concept % (Number)	Product Prototype % (Number)
Stir fry/wok, marinated and stir fry	41 (16)	39 (25)
Braise	8 (3)	26 (17)
Pan fry/scallopini	10 (4)	9 (6)
Grill	8 (3)	9 (6)
Stew/simmer	15 (6)	8 (5)
Sauté	0 (0)	5 (3)
Roast/bake	3 (1)	2 (1)
Poach/boil	3 (1)	2 (1)
Serve raw	13 (5)	0 (0)
	39 responses for 25 respondents	*64 responses for 31 respondents*

APPENDIX 49

COOKING METHODS NOMINATED AS SUITABLE FOR THE FRICADELLE BY THE ORIGINAL MENU PLANNING DECISION MAKERS IN SURVEYS 1 AND 3

Cooking Method	Product Concept % (Number)	Product Prototype % (Number)
Grill	100 (16)	93 (25)
Char Grill	0 (0)	4 (1)
Fry	0 (0)	4 (1)
	16 responses for 12 respondents	*27 responses for 31 respondents*

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