EXPLORING ELEMENTS OF THE CHEESE PURCHASING DECISION PROCESS THROUGH APPLICATION OF PURCHASING INVOLVEMENT METHODOLOGY - THE CASE OF CHEESE PRODUCTS IN ATHENS, GREECE.

By

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ABSTRACT

The Greek market for cheese is in transition. Emerging trends in the characteristics of buyers are influencing cheese purchasing and consumption patterns and, concomitantly, cheese manufacturers and traders, particularly since Greece's accession to the European Union, are using marketing communication strategies to increase demand for their specific cheese products. The development of a methodology for the identification and measurement of forces that shape cheese buyers' preferences offers prospective benefits to manufacturers and retailers in facilitating more effective product positioning. Fundamentally, improved product positioning should engender greater customer satisfaction with the cheese products on offer.

The theoretical and practical validity of using involvement theory, one important strand of overall consumer behaviour theory, to help explain the causal purchase decision process for cheese products in Athens, Greece, is the subject of this thesis. More particularly, purchasing involvement and purchasing involvement constructs for cheese products are identified. Then, scales for measuring these constructs are developed. Through a quantitative survey, the scales are tested for reliability and validity and, then it is demonstrated how these constructs can be used in order to describe and segment the cheese market in Athens.

"ἕζόμενος δ' ἤμελγεν ὅις καὶ μηκάδας αἶγας,
πάντα κατὰ μοῖραν, καὶ ὑπ' ἔμβρυον ἧκεν ἑκαστη.
αὐτίκα δ'ἤμισυ μὲν θρέψας λευκοῖο γάλακτος
πλεκτοῖς ἐν ταλάροισιν ἀμησάμενος κατέθηκεν..."

Ομηρου Ιλιαδα, Ραψωδια Θ, στιχοι: 244–247.
9ος αιωνας, π.Χ.

"Thereafter he sat down and milked the ewes and bleating goats all in turn,
and beneath each dam he placed her young.
Then presently he curdled half the white milk,
and gathered it in wicker baskets and laid it away..."

Homer, "The Odyssey", rhapsody IX, verses: 244-247.
9th century, BC.

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CHAPTER 1. INTRODUCTION

1.1 Preamble - Goal of this Thesis

This dissertation is concerned with investigating the purchase decision process for cheese in Athens, Greece. The cheese market in Greece is in transition. Changes are related both to increasing investment on new product developments and launches and to rapidly evolving buyer characteristics. Successful new cheese product development, and the development of effective marketing strategies should be consumer led. This requires detailed information regarding buyers and their motivations. Given the above, the goal of this dissertation is:

to investigate purchasing behaviour for cheese products in Greece.

1.2 Organisation of this Thesis

This thesis comprises eleven chapters. In this short introductory chapter the organisation of the thesis is presented. In the second chapter elements related to the cheese market in Greece, such as production, distribution and consumption are discussed. Macro-economic elements that might affect the cheese market in Greece are also presented.

The reasons for investigating purchasing behaviour for cheese in Greece are discussed in Chapter 3. A review of literature related to methodological frameworks used by researchers internationally in investigating various aspects of purchasing behaviour is presented in Chapter 4. In Chapter 5, an involvement-related methodology is chosen for investigating purchasing behaviour for cheese in Greece. Modifications of the conceptual frameworks involved and an analytical framework to explain cheese purchasing behaviour in Greece are discussed in the same chapter, and research hypotheses are formulated.

Purchasing Involvement and Purchasing Involvement measurement scales are developed in Chapters 6 (where also the research hypotheses are refined) and 7. Data from the quantitative survey are used to test the validity and reliability of the scales (and the first and second hypotheses of this thesis) in Chapter 8. Also, quantitative and

qualitative analyses are undertaken, leading to product segmentation in Chapter 9 and buyer segmentation (and testing of the third hypothesis of this dissertation) in Chapter 10. Practical applications of these findings are also discussed in those chapters.

The major findings of this research are critically discussed in Chapter 11. Theoretical and practical implications, and recommendations for further research are also included in that concluding chapter.

CHAPTER 2: THE GREEK CHEESE MARKET

2.1 Introduction

In 1991, about a quarter of total Greek consumer expenditure was spent on food[1] (National Statistical Service[2], National Accounts). Of food expenditure, 17 per cent was spent on dairy products (ibid.) and close to half this amount (45 percent) was spent on cheese (ICAP, 1991). The total amount of cheese consumed each year in Greece is about 200,000 tonnes (Trade Balance Sheets, Ministry of Agriculture), giving a per capita consumption of 23 kilograms - the highest recorded in the world.

In this chapter, the market for cheese in Greece will be described in terms of volume traded, cheese products available in the market, domestic production, distribution channels and consumption patterns. Also, elements related to the macro-economic environment and their impact on the Greek dairy industry will be presented.

2.2 Cheese Volume Traded in Greece

A first approximate picture of the Greek market for cheese can be obtained from Trade Balance Sheets provided by the Greek Ministry of Agriculture. The accuracy of such data depends on the reliability of the underlying basic statistics (production, imports, etc.). Problems arise mainly due to the fact that it is difficult to find detailed and accurate data regarding domestic cheese production. This is because of :

i) the large quantities of cheese produced on farms and consumed by farm families or sold directly to consumers (Patsis *et al*, 1992);

ii) the large number of small enterprises engaged in cheese production, which do not report reliable data (ibid.).

Furthermore, because the trade statistics are highly aggregated, consumption patterns for specific types of cheese cannot be identified and cheese consumption patterns for sub-groups of the population cannot be separated out. Concerning the trade in cheese, for instance, data on only two main categories are available, viz. 'Cheese' and

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[1] The category 'food' includes liquid milk, but , excludes beverages.

[2] NSS.

'Processed Cheese'. Notwithstanding these deficiencies, Trade Balance Sheets are used as a main source of information, at this stage of the dissertation, in order to give the reader some general information on the market for cheese in Greece.

In the period 1981-1990, cheese consumption in Greece was high, in world terms, relatively stable, and the market was largely supplied domestically (Table 2.1).

Table 2.1 Trade Balance for Cheese Products in Greece (tonnes)

ITEMS	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
CHEESE[3]										
Production	168,830	168,998	171,989	178,788	181,678	202,663	180,300	184,200	156,762	167,800
Imports	28,520	32,379	24,648	26,494	35,523	39,754	35,605	30,501	38,293	39,726
Exports	1,731	2,456	4,077	4,469	4,817	5,740	6,639	6,393	8,777	10,494
Change in Stocks	2,061	4,669	(5,931)	(3,654)	2,545	8,579	(1,729)	(5,361)	5,450	(1,360)
Consumption	193,558	194,252	198,491	204,467	209,839	228,098	210,995	213,669	180,828	198,392
PROCESSED CHEESE										
Production	-	-	-	40	-	-	-	-	-	-
Imports	754	814	1,171	1,388	1,648	1,438	1,925	1,451	2,780	2,815
Exports	-	-	1	31	8	-	-	3	9	13
Human Consumption	754	814	1,170	1,397	1,640	1,438	1,925	1,448	2,771	2,802

Source: Dairy Product Trade Balance Sheets, 1981-1990 (Ministry of Agriculture).

As data from the same table indicate, cheese imports (not including processed cheese) increased by thirty nine percent between 1981 and 1990, while exports, albeit from a much lower base, increased by 600 percent in the same period. Moreover, processed cheese[4] consumption close to quadruped between 1981 and 1990; this sharp increase was satisfied from imported products. Accordingly, demand for cheese in Greece is

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[3] Cheese: products in this category include: fresh cheese; hard, soft and semi-hard cheese.

[4] Processed Cheese: fruits, ham, herbs, etc. can be added to these cheese products.

mainly satisfied from domestic sources, in a ratio of domestic versus imported of 4:1. However, industry sources suggest that this figure is optimistic and this ratio is in fact 7:3 (personal communication, February 1992).

2.3 Market Availability of Cheese Products in Greece

There is a wide range of cheese products available in the Greek market and they can be placed into several classes, including: region or country of production; raw material; production techniques; observable characteristics, such as colour and taste; degree of maturity etc. However, reports and trade literature related to the Greek dairy industry, typically, use two groups to classify cheeses:

a) traditional Greek cheeses;

b) other types of cheese.

2.3.1 Greek Traditional Cheeses

The National Dairy Committee of Greece recognises 29 varieties of Greek Cheeses. (Appendix 1). Some are produced in specific regions of Greece, while others are produced nation-wide. For each one there are restrictions concerning, not only the region of production, but also, raw materials used and method of production. Traditional cheeses are produced, generally, from sheep and/or goat's milk. These cheeses are:

> Anthotiros; Galomizithra of Crete; Graviera of Crete; Graviera of Naxos; Galotyri; Kalathaki of Limnos; Kaseri; Kefalotiri; Kefalotiri of Crete; Kefalograviera; Kopanisti; Corfu; Krassotiri; Ladotiri of Mitilini; Ladotiri of Zakinthos; Manouri; Metsovone; Batzos; Mizithra; Xinotiri of Cyclades; Xinomizitra; Sfela; San Michhali; Touloumotyri; Feta in Barrels; Feta in Tins; Formaella; Telemes; Greek Graviera.

2.3.2 Other Types of Cheese

This group includes cheese products that are characteristic of other European countries and are either imported or domestically produced. Such cheeses can be classified into the following major groups:

> Gouda; Emmental; Cheddar; Edam; Parmezana; Gruyère; Pecorino; Roquefort; Ricotta; soft branded cheeses like 'Philadelphia' and 'La Vache qui Rit'; and white cheese in brine (a Feta 'look alike').

2.4 The Cheese Production Sector and Marketing System in Greece

2.4.1 Cheese Production Sector

Of the 200,000 tonnes of cheese that roughly comprises the cheese market in Greece, Feta counts for half of the total cheese consumed, that is, 100,000 tonnes per year. Domestically-produced Feta is made from sheep milk and, therefore, it is not surprising that most of the cheese produced in Greece is sheep milk-based - 58 percent, with the remainder being from goats (28 percent) and cows (14 per cent) (Anifantakis, 1991).

Table 2.2 Structure of the Cheese-Producing sector in Greece.

Cheese Production (Tonnes)	% Number of Enterprises	% Annual Production
Small		
Less than 50	43	12
51-100	34	25
101-200	14	20
Medium		
201-500	7	19
501-1000	1.5	7
Large		
More than 1000	0.5	17

Source : Anifantakis, 1991

The vast majority of the cheese-making enterprises (91 percent) are small-scale (yearly production less than 200 tonnes), while the medium ones (production between 200 and 500 tonnes yearly) and the large ones (1000+ tonnes yearly) represent 8.5 percent and

0.5 percent of total enterprises, respectively (Table 2.2). Their respective shares of total domestic cheese production are 57, 26 and 17 percent, respectively of total domestic cheese production.

It seems that concentration amongst cheese-making enterprises is low, since a great number of them account for more than half of total cheese production, while the largest enterprises produce only 17 percent of total production. Additionally, most operate seasonally due to the high seasonality of milk production, resulting in a high cost production structure for the industry (Patsis *et al*, 1992). Usually the cheese produced is sold unbranded and no serious efforts of any kind of differentiation have taken place by the producers until now[5]. In 1989, about 5 percent of the enterprises were farmer co-operatives (Anifantakis, 1991).

2.4.2 Imports

In 1990, official trade figures show that close to 43,000 tonnes of cheese (including processed cheese) were imported (Dairy Product Trade Balance Sheets, Ministry of Agriculture). However, within the dairy industry, the view is that the exact volume of cheese imports cannot be identified accurately because of inefficiencies in the trade regulatory system (Food and Beverages, 16, 1993). Germany, Holland, France and Austria are the main cheese exporters to Greece (NSS, External Trade, 1990).

2.4.3 Exports

Nearly 10,000 tonnes of cheese were exported in 1990. Currently, 62 percent of exported cheese is Feta (Food and Beverages (Galaktokomia, 3), 1993), mainly to Germany, USA and Australia, probably targeting the communities of Greek immigrants in these countries.

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[5]Industry sources estimate that branded cheeses traded in the Greek market represent between 15 and 18% of the total amount of cheese traded (personal communication, December 1994).

2.4.4 Marketing System

A product marketing system may be viewed as a collection of channels, middlemen and business activities which facilitate the physical distribution and economic exchange of the product (Kohls and Uhl, 1990).

The cheese marketing chain in Greece includes numerous participants - mainly wholesalers and retailers. Three main patterns of distribution may be identified:

a) Producer ——→ Consumer. Direct trade is not rare in the case of domestically produced cheese. Ten percent of households buy Feta through direct trade (Patsis, 1988).

b) Producer (or importer) ——→ Wholesaler ——→ Retailer ——→ Consumer.

c) Producer ——→ Retailer ——→ Consumer.

Large organisations and institutions (e.g., hospitals, army, etc.) usually have contracts with large producers, with prices being determined through an auction process. More recently, small retailers have joined together to form co-operatives in order to achieve more favourable terms when they buy cheese from importers or large-scale producers (Patsis *et al*, 1992).

2.4.5 Cheese Purchase and Consumption

To reiterate, there are four important characteristics concerning consumption of cheese in Greece:

a) a very high per capita consumption - 23 kilograms yearly compared with a EU average of 14.5[6] ;

b) the majority of cheese consumed is domestically produced (70-80 percent);

c) the majority of cheese products consumed are non-branded;

d) and half of cheese currently consumed is Feta.

A series of consumer surveys, funded by the EU and undertaken by the Agricultural University of Athens, were carried out in the 1980's and early 1990's, and, *inter alia*,

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[6] European Marketing Data and Statistics (1992), Euromonitor Plc : Great Britain.

described Greek consumer behaviour and attitudes towards cheese purchase and consumption. Using the results of these surveys as a major source of data and other relevant literature[7], an overview of how the consumer purchases cheese products can be presented.

2.4.5.1 Product Image and Uses

Greek consumers have a very positive opinion about cheese and consume it in large quantities. They believe it to be very nutritious and a main source of calcium for those that do not drink milk. Cheese is consumed with the meal, as a snack, or as a cooking ingredient. It is only used as the last course of a meal if the meal is a special occasion. Many consumers categorise cheese as being 'white' or 'yellow': white, mainly domestically produced, cheese types such as Feta are usually consumed with the meal, as an ingredient in pies, or as a snack with bread. Yellow cheeses, imported or domestically produced, are used as 'mezes' (i.e., a special dish consumed with alcohol between meals), as ingredients in recipes, on toast or in sandwiches.

2.4.5.2 Point of Purchase and Purchasing Behaviour

According to a 1988 University of Athens survey, supermarkets are the main points for cheese purchase, followed by specialist shops and other sources (the latter indicating direct trade, gifts and payments in kind). For soft cheeses such as Feta, 53 percent is bought from super-markets and 23 percent from specialist cheese shops; the rest come from gifts, direct trade, payments in kind, etc. Hard cheeses are mainly and increasingly sold by supermarkets (nearly 60 percent in 1988). The housewife is usually the buyer of cheese products. The following criteria were identified as being important in cheese choice:

a) economic factors such as price and disposable income. Consumers believe that cheese is generally expensive. The last few years of economic recession has had a negative influence on cheese purchases (industry sources);

b) taste - a piquant taste is preferred;

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[7] Anifantakis, 1991; Patsis *et al*, 1992; Food and Beverages, various issues; Self-Service, various issues.

c) eating habits - traditionally, cheese is an important element of Greek meals;

d) convenience - cheese is considered to be a convenient and easy to consume product.

2.4.6 Macro-Economic Environment

All market participants operate in and are influenced by the larger macro-environment of forces and mega-trends. Key forces include the EU and national government policies and regulations, the economic environment and changes in the structure of the population.

2.4.6.1 Milk Quotas

Milk production quotas, for cows' milk, have been imposed in Greece since 1984, in accordance with the EU effort to reduce supplies of butter and milk powder. Greece's quota is presently 750,000 tonnes, an amount that ensures that the nation is and will increasingly be a net importer of dairy products (Ministry of Agriculture, personal communication, January 1995).

2.4.6.2 Hygiene Regulations

Regulations imposed by EU, that is, 2377/90, 46/92, 675/92, regarding conditions of dairy product manufacturing and transporting may have a negative impact for many, mainly small- scale, Greek cheese-producing enterprises (Vastardis, 1992; Mathioudakis, 1993).

2.4.6.3 Product Definition and Characteristics

There are emerging problems concerning the definition and methods of production of Greek traditional cheeses. More precisely, other EU countries (e.g. Denmark, Germany, France) produce cheeses similar to traditional Greek ones and export them to various countries. The Greek government and dairy industry argue that the method of production, and organoleptic and chemical properties of such 'Greek-type' cheese, differ significantly from the *bona fide* Greek traditional products and, therefore, different names should be used for these non-Greek products. Authorities in the other

countries, however, claim that cheeses produced in Greece are not made in the traditional way (e.g., arguing that some Greek Feta is made from cow milk rather than sheep and goat's).

Responding to this criticism, the Greek Ministry of Trade has implemented stringent quality controls on Greek cheese products. For example, examining the type of milk used in Feta production - the percentage of cheese illegally produced from cow's milk decreased from 23 percent of total in 1990 to 14 percent in 1991 (Ministry of Trade, personal communication, January 1992). Nevertheless, it is very difficult to control the raw material used in Greek cheese production because cheese is produced by small size enterprises and traded directly from producer to consumers. The resolution of the issue of Greek versus 'Greek-type' cheese nomenclature through the EU courts is very slow. The result of this debate is critical for Greek cheese-making enterprises. If Greek traditional cheeses are characterised by the EU as traditional regional products, then, producers can take advantage of the regulations about regional products and benefit from substantial market protection. Otherwise, the future of, typically, these small-scale enterprises is insecure.

2.4.6.4 Greek Traditional Cheese Promotion

In an effort to increase domestic dairy product consumption in Greece, the EU funded a modest cheese promotion under EC regulations: 381/89, 1000/90, 1657/91 and 1037/92. The amount spent was approximately 300,000 ecu yearly between 1989 and 1992 (Ministry of Agriculture, personal communication, Winter 1993).

2.4.6.5 Investment Incentives

Some efforts have taken place lately to consolidate and modernise the sector (due and under EU reg. 866/90). Furthermore, some major private sector processing projects focusing on research and development for cheese products, and establishing new factories are underway. They are being implemented by major dairy companies and funded by the EU. This indicates that there may well be significant changes in the near future related to the domestic production and marketing of cheese.

2.4.6.6 Economic Environment

After rapid economic growth during the 1970's, Greece ended the 1980's plagued by macro-economic imbalances and structural problems. In 1990, the government prepared the 1991 'Medium-Term Adjustment Programme' in order to deal with:

i) the high public sector debts, the servicing costs of which absorb considerable resources at the expense of investment and living standards. Allowing for the depreciation of Drachma, in 1991, interest payments accounted for 17 per cent of GDP. In 1981 the corresponding figure was 6 percent of GDP;

ii) the severe deficit in the external balance of payments;

iii) many structural problems facing the sectors of the economy;

iv) the poor competitive position of many Greek products;

v) the high inflation rates.

The anti-inflation strategy, depending principally on the rapid de-escalation of nominal wage increases, implied real wage cuts in conjunction with a tight monetary policy stance. Despite the prospect of sizeable real income losses for large categories of the population in 1991 and 1992, the Adjustment Programme was well received by the public. Public opinion was in favour of drastic measures against tax evasion, also labour unions agreed to an employers' proposal for a two-year wage pact, entailing large real income cuts.

The Adjustment programme contributed towards a reduction in the consumer price inflation rate - 14.5 percent in January 1993 down from 18 percent between mid-1991 and March, 1992. Moreover, Greeks seemed not to be able to tolerate the strict economic policy any more. Elections in June 1994 and a change in the Government, however, only slightly changed the adjustment programme supervised by the EU. This programme resulted an inflation rate of 9.7 percent in May 1995 (Greek Ministry of National Economy). The unstable economic environment and the insecurity about the future economic situation do not permit safe predictions about consumption in the near future in Greece.

2.4.6.7 Changes in Greek Consumer Characteristics

The most central element in a market are consumers themselves. Their tastes and preferences are of high interest concerning a market's development and future. In this section some elements concerning Greek consumers' main characteristics, such as, demographics, life-style, etc., are presented.

2.4.6.7.1 Population

The Greek population increased significantly during the 70's by 11.8 per cent - from 8.7 million in 1971 to 9.7 million in 1981 (49 per cent male and 51 per cent female). Its increase was moderate during the 80's (5.5 per cent) and, in 1991, was estimated at 10.2 million (NSS, Statistical Yearbook 1988, and estimates of 1991 census results).

Fifty eight per cent of the population live in urban areas (cities with more than 10,000 inhabitants), 12 per cent in semi-urban areas (towns with 2,000 to 10,000 inhabitants) and, finally, 30 per cent live in rural areas (small towns or villages with less than 2,000 inhabitants). Almost half of the total Greek population is concentrated in Athens (capital of Greece) and Thessaloniki (in North Greece, the second largest city in Greece). Urbanisation of the population took place mainly during the 60's and 70's. As a result the rural population has been dramatically decreased (-17.2 percent since 1950). These facts, apart from confirming the urbanisation of a great part of the Greek population, lead one to suspect a change from the rural way of living towards the urban one for a large part of the population (ibid.).

2.4.6.7.2. Population Age

The percentage share of people aged 65+ years, increased from 10.9 percent of the total population in 1971 to 12.7 percent in 1981. This percentage is expected to increase to 15.7 percent in 2000 and is in line with similar trends in other EU countries (NSS Projections, personal communication, January 1995). This increase might have a significant impact on food production and consumption as different age groups usually have different requirements while purchasing food (Kotler, 1991).

2.4.6.7.3 Marital Status - Size and Composition of Households

Fifty one percent of the population are married and, by EU standards, the divorce rate is low. Greek household size has been decreasing and was 3.12 members per household in 1981. This may have happened because younger couples tend to have only one child and, also, because the cases in which members of different family generations live together has been decreasing (National Statistical Service, National Census, 1981). Such changes in the size and composition of Greek households might have a significant impact on food consumption; for example, less quantity of food demanded but better quality, smaller package sizes demanded, etc.

2.4:6.7.4 Income Per Capita

National per capita income has significantly increased in the last two decades - by nearly 150 percent, being $1614[8] in 1990. This increase was greater during the 70's than in the 80's and was the result of rapid economic growth during that period (NSS, National Accounts).

2.4.6.7.5 Food Consumption Patterns

The consumption pattern of Greek consumers has changed over the last three decades (Table 2.3).

Table 2.3. Composition of Consumption, 1950-1986 (percentages)

Commodity	1950	1960	1970	1980	1986
Bread and cereals	11.2	7.5	3.3	2.2	2
Meat	3.9	6	7.7	8.8	8.5
Milk/Dairy/ Eggs	5.8	6.5	5.9	4.9	5.8
Oils and fats	5.2	3.7	3.2	2.4	1.8
Vegetables/fruits/ pulses	12.9	10.1	9.3	11.1	8.7
Other food	6.4	7.4	5.3	5.8	6.1
Non-food	54.4	58.7	65.2	64.6	67.0

Source: Mergos and Donatos, 1989

[8] standardised, 1970, prices.

According to Mergos and Donatos (1989), the changes observed are typical of any country with rapid income growth and improving living standards. The Greek household expenditure surveys (NSS, 1974, 1982/83, 1987/88) support the above findings.

2.5 Epilogue

In this chapter, an overview of the Greek market for cheese has been presented. More specifically, information related to trade, production, marketing systems, consumption and macro-economic environment was delineated and discussed. However, markets are live organisms that change continuously responding either to changes in their internal elements or to those in their surrounding environment. For this reason, attention has been paid to various elements of the Greek market environment - for example, economic and legal environment, consumer characteristics etc., that could lead to further developments in the domestic cheese market. In the next chapter, reasons for further research on the Greek cheese market, and issues that need to be studied are discussed.

CHAPTER 3. REASONS FOR RESEARCH AND RESEARCH OBJECTIVE

3.1 Introduction

Main issues associated with the marketing of cheese products in Greece, as presented in the previous chapter, include:

a) the low quantity and quality of domestically produced raw milk, from sheep, goats and cows, and constraints on expanding cow milk production imposed by EU quotas;

b) the impact of EU food hygiene regulations on cheese production and marketing;

c) the increasing number of imported cheese products;

d) the continuing change in consumer characteristics and purchasing power, and the consequent impact on cheese product consumption;

e) the increasing investment on new, branded, cheese products and their introduction onto the market.

Changes in consumer characteristics and purchasing power, together with efforts from the industry focused on developing new branded cheeses, indicate that the cheese market in Greece is in transition. How research can respond to the needs of this market will be discussed in this chapter.

3.2 Cheese Consumption Patterns - A Critical Issue

Critically important to the development of the cheese sector in Greece will be how consumers perceive and influence the resolution of the issues mentioned above. After all, if developments are not market-led, then, the domestic cheese sector has a bleak future. There are important considerations for industry participants such as: cheese manufacturers and retailers. Indeed, marketing strategies related to investment initiatives, new product development programmes and product repositioning, should refelect the changing nautre of consumer purchasing behaviour for cheese products in Greece.

The above require a comprehensive knowledge of the present state of the market and emerging trends for the future. Knowledge of cheese product purchasing patterns is very important. Most importantly, the reasons why consumers buy specific cheese types need to be identified and analysed to guide the production and marketing decisions of participants in the cheese industry.

3.3 Previous Relevant Work on the Greek Cheese Market

It has been pointed out that knowledge of consumer preferences and purchasing behaviour related to cheese products should be the market development base for action in the industry. To date, research of this kind undertaken in Greece has emanated from two sources:

i) University Research

Until the early 1980s, research about the Greek cheese sector, as a part of the dairy industry, concentrated more on aspects of dairy farm management, using records and accounts kept by farmers (Kitsopanidis, 1981). After 1980, the Agricultural University of Athens ran a series of dairy product consumer surveys, most of which were funded by the EU and the Greek Ministry of Agriculture. Five consumer surveys were undertaken by private market research companies, while a group of researchers from the university had overall responsibility and control of the work (1984, 1986, 1988, 1990, 1992).

The main aim of these surveys was to describe consumer behaviour related to purchase and consumption of dairy products, including cheese, in various areas of Greece (urban, semi-urban and rural). One of the surveys concerned the responsiveness of consumers towards advertising of these products, while another focused on cheese consumption patterns of teenagers. The questionnaire used differed from survey to survey and year to year. This did not leave adequate room for more advanced analysis and interpretation, using time series data.. As a result, no specific methodologies appropriate for the Greek market for cheese have been developed or tested. Apart from mainly descriptive preliminary, reports, no major findings were released (Patsis, 1988, 1991, 1993, and personal communication, Spring 1993).

Other descriptive market research reports are also available, for example, Patsis *et al* (1992) describes the marketing channels for cheese using secondary data from the Ministry of Agriculture.

ii) Private Sector Reports

These describe the marketing system for cheese and other dairy products and, also, discuss the structure of the production and retailing sector (IOVE, 1990; ICAP, 1991). More recently, dairy manufacturers have initiated research related to consumer behaviour while preparing the development of new branded cheese products for the Greek market (industry sources, personal communication, July 1994).

3.4 Research Goal

The intent is not to study every aspect of the Greek cheese sector but, only, to study the cheese purchasing behaviour of Greek consumers in detail. Thus, the goal in this dissertation is:

to investigate purchasing behaviour for cheese products in Greece.

In the author's opinion, the current developments in the Greek market for cheese indicate that a marketing perspective should be adopted for the present dissertation. Additionally, the current developments in the Greek cheese market show that a descriptive study of cheese buyers, already undertaken in previous studies, would not be enough, especially when new product development is involved. The knowledge and understanding of the major factors underlying cheese buyer behaviour would be of great help in product development and strategic marketing planning.

Therefore, the researcher's efforts will focus on the investigation of :

i) the major factors that influence the purchase of cheese products;

ii) and the way that these factors can be used in helping to identify consumers with similar purchasing behaviour.

In doing so, the aim is:

a) to fill a gap in the relevant literature;

b) to enable other researchers to use this study in their efforts to search other aspects of the sector;

c) and to foster understanding of one aspect of the Greek food industry that is undergoing rapid change with all its concomitant social and economic implications (e.g., structural changes, impact on external trade budget, etc.).

3.5 Epilogue

The most appropriate way to tackle this research problem will be revealed after reviewing the relevant literature. Therefore, a literature review follows in the next chapter and is expected to give an insight into the way that researchers face and solve similar problems internationally.

CHAPTER 4. LITERATURE REVIEW

4.1 Introduction

The aim of this dissertation is to investigate purchasing behaviour for cheese in the Greek market from the perspective of marketing management. That is, apart from adopting a theoretically rigorous approach to problem-solving, emphasis will be put on how theory can be applied to provide solutions to problems faced by marketing managers in real market situations, such as: new product development; and planning and implementation of marketing strategies. In this chapter, the way that such problems have been tackled by researchers internationally will be presented and discussed, through reviewing the relevant literature.

4.2 The Importance of the Consumer in a Marketing Context

Marketing management can be defined as *"the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organisational objectives"* (Engel *et al*, 1990, G-10).

In the case of commercial firms, a key organisational objective is to make an acceptable level of profit. Therefore, those involved in marketing management aim to satisfy consumer needs and wants in order for their businesses to make profits. Knowledge about how consumers think and act towards a product's 4P's[9] is essential while developing new products, or managing those that already exist in a market[10]. Indeed as Foxall (1991, p.15) states: *"..in a competitive economic system, ... the survival and growth of firms requires accurate knowledge about consumers: how they buy, why they buy and where they buy, as well as just what they buy"*.

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[9] The four P's comprise: the product itself, its price, the channels and places that it is delivered to the customer; and the promotion strategies followed (Kotler, 1991).

[10] Kotler (1991, p.31) defines marketing as "... the right goods and services to the right people, at the right places, at the right time, at the right price, with the right communications and promotion".

Not surprisingly, considerable interest has been expressed in understanding the consumer's way of thinking and acting, the investigation of which has become a very important sub-field in marketing research.

4.3 Consumer Behaviour - Definition and Reasons for Research

There is a plethora of definitions of consumer behaviour in the literature, reflecting the many and varied approaches adopted by researchers studying the subject. Consonant with the focus of this dissertation, Arndt (1986, p.23), defines consumer behaviour as: "(1) the mental and physical acts of (2) individuals, households or other decision-making units concerned with ultimate consumption involving (3) the acquisition, own production, use and, in some cases, the dispossession of products and services".

Of course, consumer behaviour is of particular interest to those who, for various reasons, desire to influence or change that behaviour, including those whose primary concern is marketing management and policy, consumer education and protection, and public policy.

More specifically, business managers need to know who their customers are and why they choose their products rather than those of rival firms. Those involved in consumer education and protection, and in public policy, are also interested in consumer behaviour to use this knowledge in developing consumer protection and welfare legislation. Special concern is paid by policy-makers to food consumer behaviour, as public policy on food is partly directed to preventing malnutrition and improving the health of the nation.

Researchers have addressed the subject of consumer behaviour from various perspectives. Consumers have been often deemed either as intelligent and rational problem solvers or, as subjective, idiosyncratic experiencers of emotions and fantasies. (Tangermann, 1986; Solomon, 1992). Nevertheless, there is agreement on the complexity of the subject. It is recognised that : "...human behaviour is influenced by a multiplicity of interacting forces and it represents a very considerable challenge to anyone who attempts to unravel the motivating factors that shape it" (Foxall, 1991, p.16).

In the following paragraphs, various efforts to study consumer behaviour will be presented, in an effort to choose methodologies and concepts that will help us in investigating aspects of purchasing behaviour for cheese in Greece. While presenting various approaches for studying consumer behaviour, the focus will be on how purchasing behaviour patterns have been explored, especially in the case of food product purchases, and from a marketing management point of view. The main assumptions, conceptual frameworks, terminologies and models[11] will be presented, starting from the neo-classical economic explanations, through the implementation of behavioural science concepts and methodologies.

4.4 Two Major Consumer Behaviour Paradigms

Before exploring in detail the literature, an initial distinction between two major approaches that have dominated consumer behaviour research is presented. These are the information-processing paradigm and the experiential paradigm. It is convenient to present them at this stage, because methodologies and concepts presented in later sections draw upon one or, indeed, both of these approaches.

4.4.1 Information-Processing Paradigm

In this approach, consumers are seen as 'problem solvers' who carefully weigh and evaluate utilitarian-functional product attributes. Engel *et al* (1990, p.27) quoting Ajzen and Fishbein (1980) state that: "Generally speaking ... human beings are usually quite rational and make systematic use of the information available to them ..., [considering] the implications of their actions before they decide to engage or not engage in a given behaviour".

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[11] "A model is a set of assumptions about the factors which are relevant to a given situation and the relationships which exist between them. The term model is normally taken to mean one in which the assumptions are stated explicitly and relevant conclusions can be drawn by deductive (usually mathematical) methods. Hopefully, the model has also been tested in various ways by adducing evidence in favour of the initial assumptions or by testing conclusions drawn from the model - by assumptions, here, we include both those in which one can be reasonably confident because they are based on repeated observation and those for which the only evidence is 'common sense' or introspection" (Rothman,, 1986).

This approach, using concepts from economics and cognitive psychology[12] , has been widely used in studies of consumer behaviour and, also, of demand analysis in aggregate, usually at the national level (Josling and Ritson, 1986; Mergos and Donatos, 1989). When using only classical economics, imposing the rigorous assumptions related to perfect competitive markets (e.g., product homogeneity, accurate knowledge of prices and quantities demanded, fully informed consumers), consumer behaviour cannot be explained adequately (see Tangermann, 1986; Ness 1986; Roth, 1989). Adding concepts and methodologies from cognitive psychology, however, can help the researcher in understanding how consumers store, organise and interpret knowledge (Solomon, 1992).

4.4.2 Experiential Paradigm

Fields such as sociology and anthropology have contributed significantly to this approach. The experiential paradigm emphasises the importance of topics such as: fantasy, play, rituals and popular culture (ibid.). Hence, the consumption object is viewed symbolically, in terms of emotional responses, sensory pleasures, day dreams or aesthetic considerations (Engel *et al*, 1990). Hirschman and Holbrook (1982, p.92) define hedonic consumption as "those facets of consumer behaviour that relate to the multisensory, fantasy and emotive aspects of product usage experience".

Contemporary researchers view that, typically, consumption actions reflect a mixture of both paradigms presented above. Furthermore it is stated that the experiential paradigm - or hedonic approach - seems more to extend and enhance the applicability of the information-processing approach than to replace it (Engel *et al*, 1990; Hirschman and Holbrook, 1982).

4.5 The Purchase Decision Process

The procedure followed by consumers during a product purchase and the factors that influence this purchase, that is, who the buyers are, when, where, and what they buy, constitute the Purchase Decision Process. This term is widely used in the relevant literature,

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[12] Cognitive psychology is "a general approach to psychology emphasising the internal, mental processes. To the cognitive psychologist, behaviour is not specifiable simply in terms of its overt properties, but, requires explanations at the level of mental events, mental representations, beliefs, intentions, etc." Reber (1985, p.129).

corresponding to analytical frameworks that usually are variations on the same theme (Kotler,1991; Engel *et al*,1990; Foxall, 1991).

To reiterate, the study of consumer behaviour is of great interest to those that aim to influence or change it. To do so, it is necessary to describe, explain and predict the various steps that consumers take in deciding what to buy and, also, the factors that influence this procedure. Researchers have approached this problem by constructing purchase decision process models - also called 'stage models'. These models include the various steps in the purchase process, from the time consumers become aware of a need for a product or service, to the time of purchase and purchase evaluation. The factors that influence the purchase decision process include those related to the product, the buyer, the consumption situation, and the wider environment as influenced by marketing actions. A simplified form of a purchase decision process model is presented in the following paragraph.

4.5.1 Steps in the Purchase Decision Process

The stages included in a purchase decision process are :

1) Need arousal. The need for a product is realised. Need is a state of felt deprivation of some basic satisfactions (food, clothing, shelter, esteem, etc.). The term product (including products and services) is anything that can be offered to someone to satisfy a need; for example, hunger is a basic need that must be satisfied.

2) Information search. Consumers become aware of the product's availability in the market place.

3) Product evaluation. Consumers assess the products that are available in relation to their wants and means. Wants are desires for specific satisfiers of our deeper needs. Assessment of alternative products, generally, results in a choice.

4) Purchase Decision. Consumers express the demand and purchase a specific product. Demands are wants for specific products that are backed up by an ability and willingness to buy them. This definition strengthens the fact that, whatever consumer tastes and preferences are, they are meaningful for the marketers only when consumers have the ability to pay for the product.

5) Post-purchase reaction and evaluation. Consumers post-evaluate their purchase in order to repeat it or not.

The terms and definitions adopted above are used by, amongst others, Kotler (1991), Engel *et al* (1990) and Lilien *et al* (1992).

4.5.2 Factors Influencing Purchasing Behaviour

Taking into consideration models of the factors influencing purchasing behaviour described by Engel *et al* (1990) and Kotler (1991), a diagram has been constructed to represent an overview of the consumer decision-making process and factors that might influence it such as: cultural, social, personal and psychological (Figure 4.1, next page). This overview is simplistic, but, at this general stage of the dissertation, it facilitates presentation and discussion of factors influencing the purchase decision process.

4.5.3 The Role of Consumer and Buyer

The terms consumer and buyer are used by marketing management to describe what are, in fact, more complex relationships. Quoting Kotler (1991, p.178):

> **"We can distinguish five roles people might play in a buying decision:**
> **- initiator: a person who first suggests the idea of buying the particular product or service;**
> **- influencer: a person whose views or advice carries some weight in making the final decision;**
> **- decider: a person who decides on any component of a buying decision: whether to buy, what to buy, how to buy, or where to buy;**
> **- buyer: the person who makes the actual purchase;**
> **- user (consumer): a person who consumes or uses the product or service".**

Depending on the product, some of these roles may be more influential or not and, in some cases, roles may be combined; for example, concerning milk, the mother can be the initiator, decider and buyer but the child the user. Or, in the case of a cheese, the same person can play all the roles mentioned above. However, "marketers must identify who makes the buying decision" (ibid.). They need to know this in order to develop effective communication strategies (e.g., identifying promotion targets). In the review of consumer behaviour studies that follows, the term 'consumer' is often used instead of 'buyer', because, for many goods (e.g., confectionery, cigarettes), the buyer is usually the user. For food, as

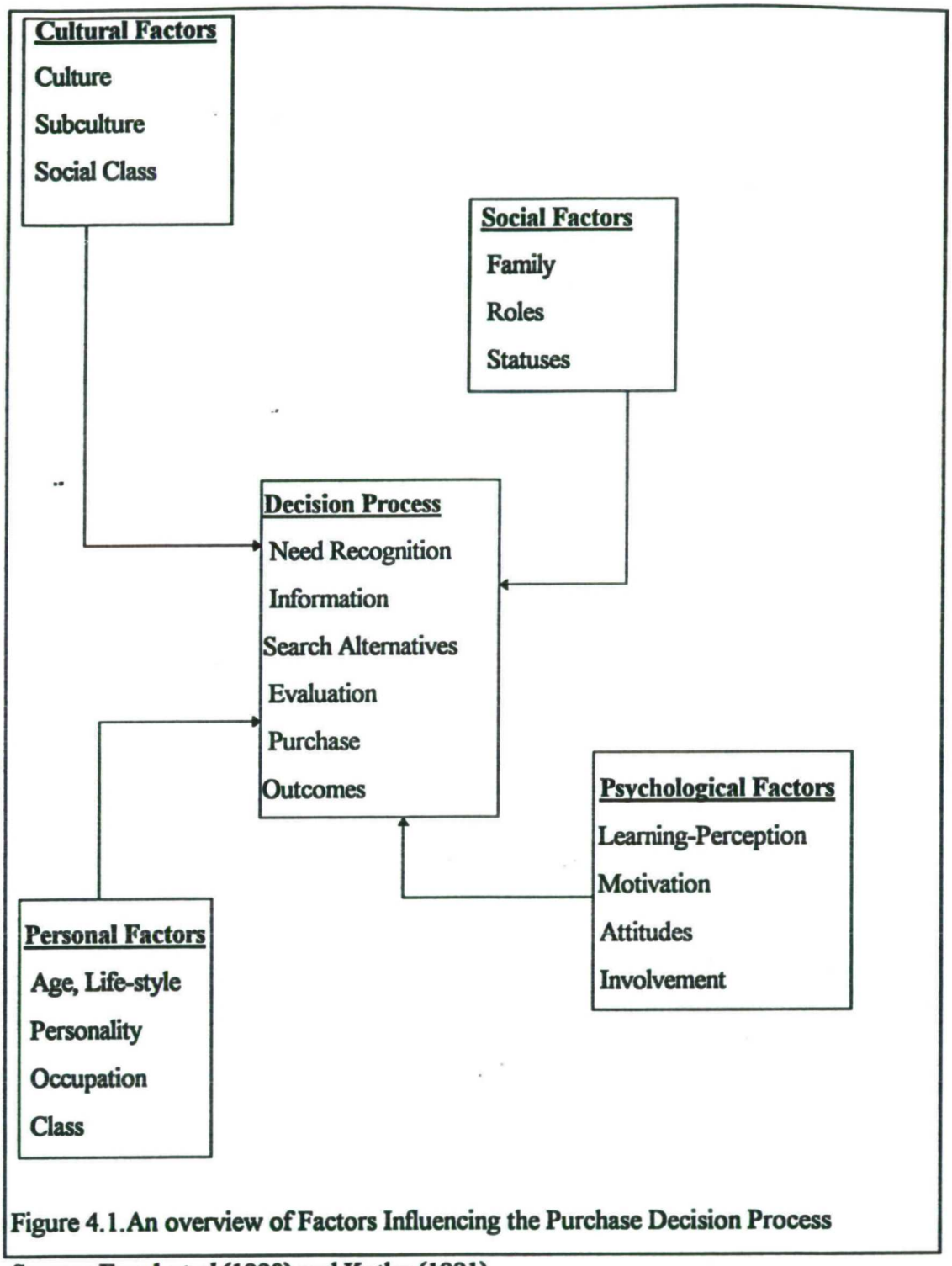


Figure 4.1. An overview of Factors Influencing the Purchase Decision Process

Source: Engel *et al* (1990) and Kotler (1991).

it will be later explained, the person that usually buys is not necessarily the one that will consume it (see Chapter 5).

4.6 The Contribution of Economics to Consumer Behaviour Research

In order to describe why consumers buy goods, elementary economic theory explains that the quantity of a good demanded is inversely related to its price; experiences in daily life suggest that, indeed, this is generally the case. Especially for food consumers, laws such as those proposed by King, Giffen and Engel explain how expenditure on food decreases proportionally as income increases and, also, describe and give reasons for cases where 'paradoxes', from an economist's point of view, occur (Tangermann, 1986). Consumer economic theory, however, has been developing since the 18th century towards increasingly more sophisticated models of consumer behaviour.

In Table 4.1[13] the main economic theories about how consumers behave are presented, together with main assumptions, major models and criticisms. In theories presented in this table, neo-classical analytical concepts and tools are used in explaining consumer behaviour. This approach to explaining consumer behaviour, where this "synthetic person [the consumer]...gathers all relevant information, spins it through an exact mathematical formula and derives an impeccable decision as to what to buy or to produce" (Tangermann, 1986, p. 61), has received considerable criticism. It has been argued that "this miserable creature.. [the 'rational' consumer] ... would not survive one day in real life, lacking all abilities which are required for a struggle for existence and any charm which would make it acceptable to human beings" (ibid.).

Criticism of economic models related to consumer behaviour - for example, unrealistic assumptions, difficulties in empirical testing, etc. (see Table 4.1, next page) - underline the need for a multi-disciplinary approach to the task of studying consumer behaviour. Indeed, economics, together with sociology, psychology, anthropology, arts and physical sciences, have all helped in the establishment of a new discipline, that is, consumer behaviour (Ratchford, 1975; Solomon, 1992). How this discipline evolved and the implications for those involved in consumer research will be explained in the next section.

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[13]This table is based on consumer theory reviewed and criticised by Roth (1989) and Lancaster (1991).

Table 4.1. The evolution of consumer theories in economics

THEORY	ASSUMPTIONS	BASIC MODEL DESCRIPTION	CRITICISM
Ordinal Utility Theory (Hicks, 1939, Marshall, 1920)	1. Consumer rationality, stability of preferences 2. a) For all possible consumption bundles A and B the consumer knows whether he prefers A to B or B to A, or he is indifferent among them; b) only one of the three possibilities is true for any pair of consumption bundles; c) if the consumer prefers A to bundle B and B to C then will prefer A to C.	To maximise $U=U(x_1,x_2...x_n)$ subject to budget constraint $Y-\sum p_i*x_i=0$ n=number of products p_i= price of good x_i	Utility is not subject to direct observation or measurement. The theory postulates (rationality, preferences rank) cannot be tested without giving ambiguous test results.
Revealed Preference Theory (Samuelson, 1937)	Generative assumptions: a) Weak axiom of revealed preference: If consumption bundle A is revealed to be preferred to consumption bundle B, then B must never be revealed to be preferred to A. b) Strong axiom of revealed preference: the transitivity of revealed preferences requires that if A is preferred to B, which is revealed to be preferred to C,..., which is revealed to be preferred to Z, Z must never be revealed to be preferred to A.	A model of consumer behaviour which avoids direct reliance on the utility concepts, instead, considers only those conditions that can be expressed in terms of observable price-quantity relations.	The postulates testing, still gives ambiguous results and the theory cannot be used to explain and predict consumer behaviour in terms of: 1) the commodity composition, 2) changes in the optimal consumption bundle either by compensated or uncompensated changes in the price vector or in real income (given tastes and preferences).
Technical extensions of the Utility Theory (Lancaster 1966, Wu and Pontney 1967, Houthakker 1961)	1. Rationality. 2. Stable preferences.	max $U=f(x_1,x_2...x_n)$ subject to budget constraint $Y-\sum p_i*x_i=0$ $x_i>0$ i=1,2,...n p_i= price of good x_i	-The number of goods the optimal bundle will involve is not straight forward especially in advanced economic systems with many goods available (without avoiding problems of a priori delimitation). -The satiety problem (that the marginal utility of one or more of the goods may be zero).
a) The Utility Tree Theory (Fisher 1927, Leontief 1947, Strotz 1957)	a) The utility function can be conceived of as a tree whose branches correspond to budget categories (eg. food, clothing etc.). The consumers decision process may be characterized as involving two stages: Stage one: A decision is made as to how income should be allocated among branches, given all prices.	a) max $U=f(x_1,x_2...x_n)$ subject to budget constraint $Y-\sum p_i*x_i=0$	a) The model does not solve the problem of choice among goods within each branch nor justifies the choice among differentiated products.

b) The Multi-Equation Utility Function	Stage two: The various budget allotments are allocated across the commodities in the respective branches. b) It is a continuation of the two stage decision Utility Tree Theory. An a priori listing of alternative commodities available is used, in order for any observed consumption pattern to be rationalised. The consumer selects the unique commodity bundle that will provide the greatest possible utility.	b)max $U_1=f(x_1,x_2...x_n)$ -. $U_2=f(x_1,x_2...x_n)$ ..... $U_n=f(x_1,x_2...x_n)$ subject to $Y-\sum p_i*x_i=0$ $x_i>0$ i=1,2,...L	b) Consumer preferences remain an unidentified exogenous variable. Any results that appear to be variant with the model's predictions can always be described as "changes in tastes".
Lancaster's "New Approach" (Lancaster,1966)	The crucial assumption has been that goods possess, or give rise to, multiple characteristics in fixed proportions and that are these characteristics, not goods themselves, on which the consumer's preferences are exercised.	max U=U(z) z: vectors of the various goods (x) characteristics z=B*x B: consumption technology vector (n*r) r:product characteristics n:number of goods	Due to the mathematical structure of the model B must be non-singular. That imposes the assumption that n=r which means a priori goods delimitation.
House Productivity Function (HPF) (Michael and Becker 1973)	In order to reduce the role of tastes in the interpretation of observed consumer behaviour they emphasise the role of "income" and "shadow price" in the consumer's behaviour model.	max $U=U(z_1,z_2...z_n)$ $z_i=z_i(x_i,t_i)$ $T=t_w+t_i)$ subject to $Y-\sum p_i*x_i=0$ t_w: the household's time spent in the labour market t_i: the household's time spent in producing z_i z_i: family's production function	-They presume constancy of tastes. -The presence of an unidentified exogenous variable: the consumer's (household's) preferences structure.
A different approach - towards behavioural sciences			
Bounded Rationality Theory (Simon,1955)	"It contemplates a situation in which the technical constraints on choice include properties of human beings as processors of information and as problem solvers" (Roth, 1989,p.134)		
Heiner's Reliability Theory (Heiner,1983)	It suggests that classical rationality postulate should be dropped because of uncertainty. A general framework for analysing behaviour under all different structures or uncertainty is proposed.		
Theory of human problem solver (Newell, Shaw and Simon,1958)	It is presumed that consumers decision is based on a process whereby stimuli are perceived and interpreted by the individual and translated into a response.		

Source: Roth (1989) and Lancaster (1991).

4.7 The Contribution of Behavioural Sciences to Consumer Research

As Foxall (1991, p.16) states: "products and services are purchased not only for their primary functions but also due to the social and psychological meanings they convey" ... therefore, "it is not surprising that considerable interest has been expressed in using the behavioural sciences, especially social psychology and sociology, to understand the consumer". Food, in particular, "... plays a central role in our lives as a source of nutrition and emotional gratification and as a vehicle of expression of social relations and values" (Rozin *et al*, 1986, p.85).

Consumer behaviour started being developed as a separate field of study during the 1960s, and "...through the influence of such writers as Katona, Ferber and Howard,.., the behavioural sciences became the 'in thing' in the schools of business" (Engel *et al*, 1990, p.22). Eventually, conceptual frameworks and analytical tools from various sciences have been applied in the study of consumer behaviour. Often, however, these concepts and tools, were not implicitly developed to deal with consumer behaviour. Indeed, many of the models come from the field of clinical psychology and were adapted for market research use (Foxall and Goldsmith, 1989). This had both positive and negative implications for the field of consumer research.

Solomon (1992), for instance, states how fascinating the field of consumer behaviour has become, especially due to the contribution of so many disciplines in its development. He comments that the field of consumer behaviour "is young, dynamic, and in flux... [as] ...consumer researchers currently active in the field represent virtually every social science discipline, plus a scattering of people from the liberal arts and physical sciences". He also claims that "this academic 'melting pot' has created a healthy mix of research methods and of attitudes about what are and are not appropriate issues for researchers to study" (ibid., p.xv).

Kassarjian and Kassarjian (1979, p.3), indicating the dangers of this 'melting pot', comment that, "unfortunately, concepts, theories, and methodologies from another field of endeavour [social psychology] have been borrowed rather indiscriminately by marketing researchers and have been applied to consumer research concerns". And they continue, "..often, various terms are used interchangeably to add to the confusion... not because of a well-held theoretical position ... but because the marketing researcher in his wholesale borrowing does not make clear distinction between the concepts".

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However, Engel *et al* (1990, p.22) state that "...although this borrowing process was counterproductive at times, it also was necessary in a field of study in its infancy". More specifically, psychology and sociology have contributed to the study of consumer behaviour by helping explain, first, the internal and, second, the external influences on consumers (Lilien *et al*, 1992). In the next section, an overview of concepts and methodologies taken from the behavioural sciences and used in consumer behaviour research is presented and discussed.

4.7.1 Perception

Exploring the relationship between consumer and product is a fundamental component of consumer behaviour research. Lancaster's contribution to consumer behaviour research identified that products and services are seen by consumers as bundles of characteristics-attributes. Furthermore, according to this approach, "...goods are valued for the attributes which they possess and differentiated products are essentially different packages of attributes" (Ratchford, 1975, p.65). In 1966, the Lancastrian approach represented a modern revolution for consumer economics because, according to it, "...goods are depicted as bundles of characteristics in contrast to traditional demand theory which defines goods only as goods" (Ness, 1986, p.148). Still, according to Lancaster's theory, goods should be described in terms of observable characteristics- that is, colour, calorie content, etc. (Lancaster, 1991).

Consumer behaviour models coming from the field of psychology also suggest that consumers see products as sets of attributes (Fishbein, 1967). In these theories, however, apart from observed attributes, perceived ones are identified as being important as well.

According to Foxall and Goldsmith (1994), perception is not an easy term to explain. But, as they state: "Harrel (1986:66) understands perception to mean 'the process of recognising, selecting, organising, and interpreting stimuli in order to make sense of the world around us'. Perception of goods and services depends in part on the stimuli to which consumers are exposed and, in part, on the way these stimuli are given meaning by consumers" (p.50).

In multi-attribute[14] models (Wilkie and Pessemier, 1973; Hirshman and Holbrook, 1992), perceived product attributes are also mentioned. Furthermore, in analysing food choice, McGoldrick and Marks (1987), argued that prices considered by consumers in a retail environment are not necessarily observed prices. They suggest, instead, that consumers operate with a 'price image', reflecting factors such as inflation, price cutting, etc. Lilien *et al* (1992, p.27) suggest that: "it is consumers' perceptions of a product's characteristics that influence their behaviour, not the 'true' characteristics".

Ratchford (1975), however, states that the differences between the two approaches (i.e., Lancaster's economics-oriented model and the psychologically-based attitude models) appear to be more related to the specific problems each model attempts to solve than to any basic philosophical conflict.

In discussing the product purchase decision process (Section 4.5), it was identified that the consumer's choice is the result of a product evaluation. According to the theories reviewed in the present paragraph, this evaluation seems to be based on the product objective and/or perceived attributes. Indeed, according to Foxall (1991, p. 22) "Engel *et al* (1968 : 79) understand perception to mean 'the process whereby stimuli are received and interpreted by the individual and translated into a response'". This definition relates the term perception to a response, for example, a purchase decision. This procedure takes place in two stages: first, people become aware of their environment through the five senses and, secondly, they interpret the object of perception in a way that varies among individuals (ibid.).

Apparently, product attributes are not perceived in a uniform way by consumers. Thus, according to Lilien *et al* (1992), we can segment[15] the market for a product by the attributes that are of primary interest to a target group of buyers.

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[14]These models focus on multi-attribute objects. The latter are viewed as bundles of attributes (Wilkie and Pessemier, 1973).

[15] i.e., identifying market segments. i.e., "groups of consumers which expect to benefit from a transaction" (Engel *et al*, 1990, p.12).

4.7.2 Learning

According to Reber (1985), who suggests that "over the years nearly every conceivable form of [learning] theory has been proposed" (p.399), learning can be defined as "the process of acquiring knowledge or the actual possession of such" (p.395). It has an association with perception as both involve the individual consumer's responses to various stimuli. Two major theoretical approaches describing and explaining learning are found in the literature:

i) Cognitive Learning. According to this approach, learning is mainly viewed as a conscious mental process (Foxall and Goldsmith, 1994). In cognitive learning, an individual can become familiar with a situation without experiencing it in reality, for example, through reading.

ii) Behavioural Learning. This approach is based mainly on Pavlov's theory (according to which, events that repeatedly occur together tend to be associated in the future, with a stimulus leading to a response) and on Skinner's behavioural learning, under which consumers' prior experience is the primary determinant of future behaviour (Lilien *et al*, 1992). It is in this context that Foxall (1991) states that learning "in behavioural sciences refers to any change in behaviour which comes about as a result of experience" (p.39).

In this dissertation, the learning process is of interest in the context of consumer behaviour and, especially, on how consumers learn, and the concomitant impact on their attitudes and behaviour (see 4.7.3.1). For present purposes, Leber's view is adopted, that is, "there really is no such thing as a single theory of learning;... theorising about learning is an exercise in generalisation and often can be as polemical as it seeks to be empirical" (1985, p.399).

4.7.3 Attitudes

4.7.3.1 Attitude Definition and its Role in Consumer Behaviour Research

The study of attitudes, a concept from the field of social psychology, occupies a central position in consumer behaviour research (Foxall, 1991). Attitudes are "generally understood to refer to a predisposition to respond in a consistent manner to a stimulus, i.e., a tendency to act or behave in some predictable way" (ibid., p.67). Understanding attitudes is of great interest to consumer behaviour researchers because if we can influence or change attitudes, then, we

may be able to influence or change behaviour. Reversing the direction, Lunn (1986) explains how changes in behaviour can lead to changes in attitudes, however, attitude - behaviour interactions are discussed in a later paragraph.

The following clarifications regarding attitudes are found in the literature (Lutz, 1991):

a) attitudes are held towards some object. The term object is used in a broad sense including: a true object, for example, a product class, a retail store, etc.; a person; an issue; a behaviour, etc.;

b) attitudes are related to the behaviour towards a certain object. It is in this sense that attitudes are particularly important to consumer researchers who, in the final analysis, are seeking to understand how purchasing behaviour can be influenced;

c) attitudes are formed either through information (cognitive learning) or through direct experience (behavioural learning). According to Engel *et al* (1990) attitudes that consumers hold are a result of their prior experiences. Whereas Foxall (1991), instead of the term 'experiences', uses the term 'experimental and observational behaviour'; thus, making more explicit the fact that if attitudes are themselves influenced by past behaviour, the process must be 'two-way'. Indeed, he claims that attitudes both influence and are influenced by behaviour.

Given that interaction between attitudes and behaviour occurs, Engel *et al* (1990) indicate that attitudes are useful to marketers because, usually, consumers buy a product towards which they hold positive attitudes. So attitude research can be useful in:

a) judging the effectiveness of marketing activities;

b) evaluating marketing actions before they are implemented within the market place;

c) segmenting markets and choosing target segments.

A more detailed exploration of the relationship between attitudes and behaviour is presented later on in this chapter; first, some central concepts related to the elements of attitudes and attitudes formation are explained.

4.7.3.2 Composition of Attitudes

Attitudes are hypothetical constructs, therefore, they can never be directly verified. Yet, people's behaviour may indicate that they are very well disposed to some objects and much less well disposed to others. Therefore, attitudes can be very useful for market researchers while examining consumer-product relationships.

In studying attitudes it is necessary to understand their structure. Two major theoretical orientations regarding elements comprising attitudes have been developed. Lutz (1991) names them as:

1) The Tripartite View of Attitude

Attitudes are viewed as comprising , to a greater or lesser degree, three components:

cognition - affect - conation.

Cognition[16] refers to an individual's beliefs related to an object (e.g., eating cheese is good for the health).

Affect contains favourable or unfavourable feelings for the object (e.g., I like cheese).

Conation includes intended and actual behaviour (e.g., I buy cheese once a week).

This view, however, raises a few empirical problems. Thus, Lutz (1991) is critical because most attitude measurement procedures fail to measure all three components of attitude. Instead, most of them rely on a series of belief-type statements that, when combined, are expected to yield an overall measure of attitudes; yet, with a few exceptions, the cognitive and conative components of attitudes have not been measured in empirical investigations of attitudes. This limits the application of the tripartite approach in marketing research.

2) The Unidimensionalist View of Attitude

According to this view, the attitude elements -as accepted by the tripartite view, are seen and measured separately, as part of a causal flow:

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[16]According to Reber (1985), cognition is a broad (almost unspecifiably so) term which has been traditionally used to refer not only to activities such as thinking and reasoning but, also, to any class of mental behaviour like belief, intentionality, expectancy. Lutz (1991), however, does not use cognition to denote intentionality, using conation for this purpose.

Beliefs ⟶ Attitude ⟶ Intention ⟶ Behaviour
(cognition) (affect) (conation) (conation)

As will be shown later in this chapter, while discussing the attitude-behaviour relationship, this causal flow is not the only plausible flow of effects. However, it is the dominant one at least from a theoretical perspective (Lutz, 1991).

4.7.3.3 Attitude Formation

In market research, we are interested not only in investigating if attitudes towards a certain product are favourable or not, but also, on how we can influence, or change these attitudes. So, it is necessary to understand the underlying factors that influence and lead to attitude formation. A number of theories has been developed in order to explain this. These theories are presented in Table 4.2 (next page).

These theories about attitude formation appear to be related. Thus, the four functions included in the Functional Theory are both complementary and related to other theories and concepts identified already in preceding paragraphs.

Indeed, as Lutz (1991) suggests, the value-expressive function is similar to Rosenberg's affective-cognitive consistency theory - a theory which propounds the view that many products are not sold so much on the basis of their physical attributes but, rather, on the basis of the attributes of the typical user of the product, that is, people attributes, or more precisely, on the basis of product and user attributes not as they really are, but as they are perceived to be by potential users.

The ego-defensive function is based on theories coming from the field of psychology and social psychology related to the personality concept (see section 4.7.6.1). Furthermore, functional theory is seen by this researcher as being highly related to motivational and involvement theory which are presented in the following paragraphs and constitute the core theoretical framework for this dissertation.

Table 4.2 Main Theoretical Approaches Regarding Attitude Formation

Attitude Formation Theories	
Consistency Theory	**This encompasses three theories:** **i) Balance theory. This is a general theory of attitudes and attitude change. It was developed by Heider in 1946, based on the main assumption that a person will seek to resolve or relate attitudes that are 'out of balance' with each other.** **ii) Theory of Cognitive Dissonance (Leon Festinger, 1957). A dissonance, that is, inconsistency, can occur between two beliefs or between a belief and an attitude. This inconsistency leads the individual to change attitudes or behaviour in order to reach harmony.** **iii) Affective-Cognitive Consistency Theory. Rosenberg, in 1960, conceived the final form of this theory and centred his interest on the values[17] of the individual and how these values are related to overall attitude. It belongs to the group of value-expectancy theories, according to which: an individual's attitude towards an object is a function of the individual's expectation that the object can help the attainment of some desired values.**
Learning Theory	**Proposed by Fishbein in 1963, it is similar in structure to Rosenberg's theory . Indeed, both theories belong to the general class of expectancy - value models.**
Functional Theory	**Conceived by Smith, Bruner and White, in 1956, and Katz, in 1960, this theory is often called the 'motivational' approach[18] to attitude formation and change. According to this theory, it is of great importance to understand the motivational origins of an attitude before attempting to influence or change it. Foxall and Goldsmith (1994, p.94) adopt Katz's view who attributes four functions to attitudes:** **'i) the adjustment function, in which the individual assesses the utility of objects for the attainment of his goals;** **ii) the ego[19]-defensive function, in which the individual uses attitudes to protect him/herself from the others in the environment by concealing feelings and desires which may be regarded as socially undesirable.** **iii) the value-expressive function, by which the individual expresses his central values and self to others; it can be seen as the functional opposite of the ego-defensive function.** **iv) the knowledge function, by which the individual constructs the meaning of his world, or gives explanation to both physical and metaphysical phenomena'.**

Source: Lutz (1991), Foxall and Goldsmith (1994), and Reber (1985).

4.7.3.4 Attitude - Behaviour Relationship

The interactive character of attitude - behaviour relationships has already been mentioned. Also, it has been said that attitudes attract market researchers interest exactly because of the possible interaction between attitude and behaviour. Considerable research work has been undertaken in identifying this relationship and examining its nature.

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[17] Where "values are consensual views about the kind of life individuals should follow" (Foxall and Goldsmith, 1994, p.206).

[18] See sections 4.7.4 and 4.7.5.

[19] ego: the rational element of human psyche, according to Freudian theory (4.7.4.2).

Some researchers (e.g., Rothschild, 1975; Kassarjian and Kassarjian, 1979; Tyebjee, 1979; Lastovicka and Gardner, 1979) share the view that the direction in which the interaction attitude - behaviour occurs will depend on the consumer's interest in the product, on the degree of exposure to high levels of advertising, etc. Thus, they suggest that measuring attitudes does not necessarily lead to knowledge about how likely consumers are to behave, especially, for unimportant products and purchases (e.g., people may have only very modest interest in canned peas and, therefore, these researchers view that measuring attitudes towards them would have little relevance to canned peas purchasing behaviour).

In contrast with this approach, other researchers argue that even in cases of trivial products and purchases, consumers can hold significant attitudes towards these products (Beharell and Denison, 1992; Hoyer, 1984). It is understood that this might happen in two ways:

a) consumers might have decided in the past about the frequently purchased product they buy. Then, trying to minimise purchasing effort especially in a multi-product retail environment, they repeat the purchase basing their decision on already existing attitudes;

b) a product may be frequently purchased and its use relatively trivial, but, it also may be related to more serious issues, for example, daily consumed cheese choice - related to health and nutrition issues; cheese for a formal dinner - related to social status of the host.

Despite criticisms, market researchers usually assume that consumers hold attitudes about products and that these attitudes, may have a major role in the purchase decision process. Therefore, in most efforts to discover how people behave, researchers try to measure attitudes. So, as Foxall (1991, p.62) suggests: "in many marketing situations, it is sufficient to know that attitudes and behaviour vary together, rather than to discover which affects the other". Furthermore, Lesser *et al* (1986), express the opinion that : "... [the idea that] to measure attitude is to measure how people are likely to behave ... appears to oversimplify or even ignore the complexities of the inter-relationship between attitude and behaviour, but does not really do so". And they continue: "on the definition of attitude commonly used in marketing, of a 'predisposition to behave', what is being attempted is to measure a particular class of behaviour; and, since the whole purpose of the measurement is to discover how behaviour can be influenced, nothing more is needed".

Engel *et al* (1990) argue that "under the proper circumstances, attitudes can predict behaviour". They do not openly comment on which these proper circumstances are, but they draw the researchers' attention to the accurate representation of sample, target, timing and context.

It seems, though, that consumers holding positive attitudes towards certain products are more likely to proceed towards purchase than if they were holding negative attitudes. Certain theories and models have been developed by researchers in an effort to enlighten the attitude - behaviour relationship. The most important of them, as reviewed by Lutz (1991), are presented below.

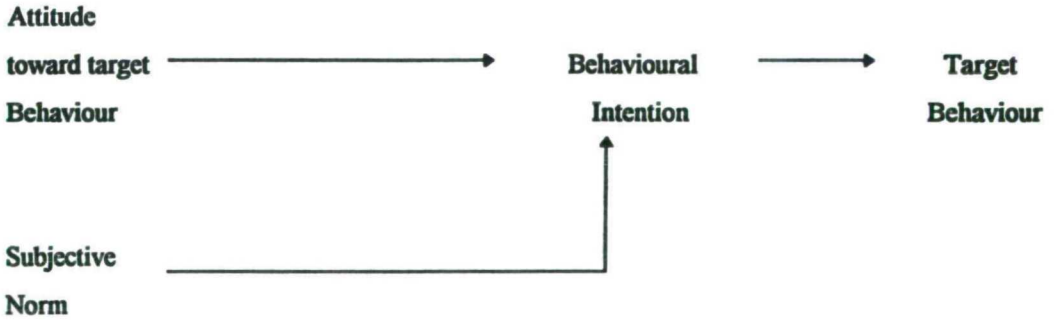
a) Theory of Reasoned Action (TRA)

Developed by Fishbein and Ajzen, this theory is based on the proposition that to predict a specific behaviour, for example, the purchase of an object, we need to measure an individual's attitude towards this behaviour, that is, favourable or not towards the act of buying the object and not towards the object itself. Two major influences on intention to perform a certain behaviour are revealed:

i) attitude toward the behaviour, that is, favourable or unfavourable predisposition;

ii) subjective norm, that is, the expectations that other people, relevant to the individual, hold regarding his/her behaviour.

Foxall and Goldsmith (1994, p.100) present the text view graphically:



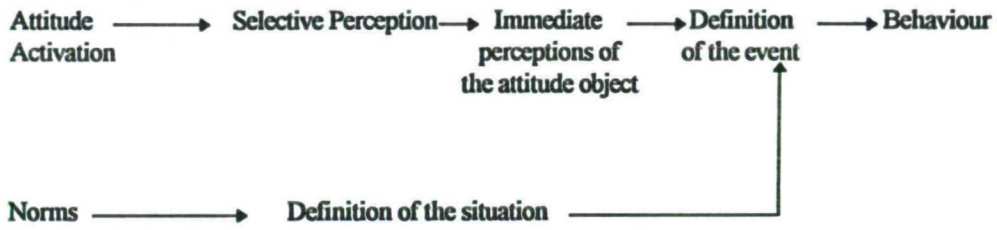
b) The 'Other Variables' Approach

To explain discrepancies between attitude - behaviour, some researchers have placed more emphasis on variables other than attitude, that might influence behaviour. These variables

can be either personal, for example, income availability, prior experiences, etc., or, situational, for example, unanticipated events, etc.

c) Fazio's Process Model of Attitude - Behaviour Relations

This has been developed by Fazio and his associates over the last decade. It is based on principles of information processing. Fazio defines attitude as a learned association between an object and an evaluation, thus, being consistent with the unidimensional view of attitude, for example, excluding beliefs and other cognitive elements. His model is aligned with the functional approach related to attitude formation, and is very similar to Katz's knowledge function[20]. Fazio views that attitudes give rise to perceptions, that is, attitudes that the individual holds towards an object, first, are activated-retrieved from the memory and, then, guide the processing of information about the object (Lutz, 1991).



In short, researchers have viewed, attitudes as a link, on the one hand, between product attribute and perception and, on the other hand, between intentions and behaviours; thus, attitudes are of great interest for marketing decision-making. Furthermore, from the theory already presented, it seems that attitudes can be classified on a continuum from favourable (positive) to unfavourable (negative). To measure them, various attitude measures have been developed. These are presented in the following section.

[20] see earlier presentation about attitude formation.

4.7.3.5 Attitude Measurement

Attitudes are considered to be an overall evaluation that can vary from very positive to very negative (Engel *et al*, 1990). Various rating[21] scales have been developed for their measurement. The most commonly used scales are:

a) Likert Scale: In this scale, series of statements about an object are used. Consumers are asked to agree or disagree with each statement. Various rates of agreement or disagreement are used, that is, strongly agree, agree, neutral, disagree, strongly disagree. Likert scales or Likert type scales, are widely used by market researchers (Foxall, 1991; Kotler, 1991; Engel *et al*, 1990; Beharell and Denison, 1992; Mittal, 1989c; Laurent and Kapferer, 1985; Kapferer and Laurent, 1985).

b) Thurstone: Equal-appearing Intervals. A large number of statements about how a subject is used, in relation to a subject. These statements are positioned as neutral, favourable, etc. The respondent indicates which statement he/she agrees with. The method has been criticised on the grounds that the attitudes of the person that initially position the statements may influence the results.

c) Osgood: The Semantic Differential. Using semantic differential scales, marketing researchers may discover attitudinal differences towards a product between groups of consumers (Zaichkowsky, 1985a; Foxall, 1991; Patsis 1988). The following example where an Osgood scale is used for cheese is given by Foxall (1991, p.71):

"	1	2	3	4	5	6	7	
old fashioned	-	-	-	-	-	-	-	modern
cheap	-	-	-	-	-	-	-	expensive
non nutritious	-	-	-	-	-	-	-	nutritious
diet food	-	-	-	-	-	-	-	fattening
not fresh	-	-	-	-	-	-	-	fresh
easily served	-	-	-	-	-	-	-	difficult to serve".

[21] On a rating scale, the respondents are asked to indicate what they feel, that is, holding favourable or unfavourable attitudes, about a product by marking a position on some continuum (Foxall and Goldsmith, 1994).

d) Crespi: Stapel Scale. This is a simplified version of the semantic differential scale which can be useful where poorly educated respondents or telephone interviews are involved (Lutz, 1991).

e) Wilson and Patterson: The Conservative Scale. This scale has been created in order to measure political attitudes. It has proved useful in consumer research, particularly in measuring consumer innovation (Lutz, 1991).

The scales that have been presented above have been developed to be used in a variety of research projects to test various issues, such as: political position, attitudes towards food, etc. The most appropriate scale to be used in a consumer research project, however, depends on the product involved and the specific research requirements. Most importantly, however, researchers must be aware of what exactly they are trying to measure while developing and testing measurement scales.

4.7.3.6 Modelling Attitudes

Consumers see products as bundles of characteristics - observed or perceived (Lancaster, 1991; Ratchford, 1975; Wilkie and Pessemier, 1973). They evaluate the products according to those characteristics and form attitudes. The effort to describe this process leads to multi-attribute attitude models, the most widely referenced being the 'Fishbein Model' and the 'Ideal-Point Model'. The former "provides information about consumers' perceptions of existing products, but only the latter identifies consumers' preferred or ideal configuration of product attributes" [22] (Engel *et al*, 1990, p.323). These two models are presented below:

a) The Fishbein Model

$A_0 = \Sigma \; |b_i * e_i|$

A_0 = attitude toward the object

b_i = the strength of the belief that the object has attribute i

e_i = the evaluation of attribute i

n = the number of salient attributes (Fishbein, 1967).

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[22] Various extensions of these models have been used in various cases e.g., behavioural intention models that permit estimation of the impact of attitudes and social influences on behavioural intentions.

b) The Ideal-Point Model

$A_b = \Sigma W_i \ |I_i - X_i|$

A_b = attitude toward product-brand

W_i = the importance of attribute i

I_i = the 'ideal' performance on attribute i

X_i = the belief about the product's actual performance on attribute i

n = the number of salient attributes (Engel *et al*, 1990, p.315).

Evaluations and strength of beliefs used in these models are measured using, usually, a ranking scale.

The concept of product attributes, emanating from the Lancastrian theory[23] and employed in multi-attribute attitude models, is very important. This is because, according to Ratchford (1975, p.67), "[Lancaster's model]... explains why goods are substitutes (they yield the same characteristics) or complements (they are employed together in producing the same characteristics)". Also, in these models the concept of product attribute or brand attribute can be used, according to which concept the researcher wants to investigate (Wilkie and Pessemier, 1973, p.428).

4.7.4 Motives

4.7.4.1 Definitions and the Role of Motives in Consumer Behaviour Research

In the previous paragraph, extended information has been given on how consumer attitudes toward products are formed, their significance in behavioural research, and how they can be measured and modelled by market researchers.

As shown, consumers are aware of their needs and, then, they perceive a range of products available in the market that, potentially, cover their needs satisfactorily. As memories are activated, they evaluate these products according to characteristics they possess[24] and form favourable or unfavourable attitudes towards them. One view of attitudes is that they are

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[23] see Table 4.1 and Lancaster (1991).

[24] In both, the information processing paradigm and the experiential paradigm, products are perceived by consumers as bundles of characteristics (functional or symbolic).

what consumers feel about certain products, that is, they like them or not[25]. However, this is not enough to explain the consumer's purchase decision process. Liking a product does not always mean buying it. Especially in new product development (NPD), marketers need to know which forces drive consumers towards liking and purchasing some products and not others. That is, they need to know the motives underlying consumer behaviour.

A motive is defined as "a state of arousal that impels an organism to action" (Reber, 1985, p.455) and, as Foxall and Goldsmith (1994) explain, motivated behaviour is activity that is directed toward the attainment of a goal or an objective.

Consumers gain from the consumption of certain goods. Their benefits emanate from the characteristics of the goods (e.g., functional, symbolic). Thus, through consumption they can achieve certain goals[26]. For instance, they feel hungry, so, they buy take-away food and, thereby, achieve their goal of getting fed. They want to please their boss, so, they invite him/her to dinner at an expensive restaurant. In both cases, consumers buy food - the goals they want to achieve in each occasion, however, are different. In the first case, the goal is to satisfy their need for food. In the second, they want to improve their relationship with their boss, perhaps, to ask for an increase in salary. In both cases, food can be called the 'goal-object' and "embodies, symbolises, or otherwise represents goal attainment" (Foxall and Goldsmith, 1994, p.152).

The same authors represent the way that needs, wants and benefits can be seen in a parallel way as motives, goal objects and goals, as in the following figure:

Need ⟶ Want ⟶ Benefit **Consumer plane (specific)**

Motive ⟶ Goal Object ⟶ Goal **Psychological plane (abstract)**

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[25]Especially in the unidimensional approach.

[26]A typology of goals in relation to this dissertation scope is presented in section 4.7.5.3.2.

As Engel *et al* (1990) explain, a need or motive[27] is activated when there is a sufficient discrepancy between the actual state and a desired or preferred state of being. As this discrepancy increases, the outcome is activation of a condition of arousal referred to as drive. The stronger the drive, the greater the perceived urgency of response. For marketers it is important:

a) to understand the interrelationships between motives and specific behaviour;

b) and to develop a typology or list of consumer motives specific enough to capture the wide variety of motivating forces that stimulate and shape behaviour (Foxall and Goldsmith, 1994).

A series of theories have been developed in relation to these issues.

4.7.4.2 Theories Related to Consumers Motives

a) Freud's Theory of Motivation

The psycho-analytical theories and philosophies of Sigmound Freud have influenced the marketing literature and have been largely applied in consumer behaviour research by emphasising the unconscious nature of motivation (Lutz, 1991). There are two central tenets in this approach:

a) emphasis on human sex drive;

b) separation of the human psyche into three levels, that is:

-id, which contains our basic anti-social desires;

-ego, the rational element;

-superego, a conscience which is in constant state of conflict with the id.

In marketing, the Freudian approach was used in motivation research initially by Ernest Dichter in the very early 1950s, with the development and operationalisation of techniques such as **in-depth interviews and projection techniques**[28] (Kotler, 1991). The approach has served advertisers by stressing the psychological and symbolic aspects of consumption,

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[27]In marketing literature, needs and motives are often treated as interchangeable terms, probably, due to the similarity of functions they perform (Foxall, 1991, p.46; Engel *et al*, 1990 p.252).

[28]These are methods of conducting interviews at the individual consumer or group of consumers level, to reveal what leads them towards purchase and/or consumption of certain products (more information on the topic is given in Chapter 6).

as "products and brands were interpreted in appropriate symbolic terms and related to unconscious desires of consumers" (Foxall and Goldsmith, 1994, p.158).

According to Foxall and Goldsmith (1994), however, the application of Freud's theory in consumer behaviour research has received major criticism on two grounds:

i) often, the results of such applications are based on an individual's case study and, then, developed into communication strategies focused at large numbers of consumers (e.g., in large-scale advertising). In such cases, the actual effects of such strategies are not easily measured and evaluated;

ii) some researchers even argue about the validity of fundamental conceptual elements of this theory, at least when used for studying consumer behaviour. As Foxall and Goldsmith state (1994, p.158): "Not all psychologists are sympathetic toward Freud; one refers to this account of the human mind as a theory that 'man is essentially a battle-field; he is a dark cellar in which a maiden aunt and a sex-crazed monkey are locked in mortal combat, the affair being refereed by a rather nervous bank-clerk'! (Bannister 1966:363)".

Nevertheless, Freud's theory, by distinguishing conscious and unconscious sources of motivation, enhanced the development of certain market research techniques, such as depth interviews and projective tests, that are still widely used in market research (Lutz, 1991). Furthermore his theory contributed significantly to the development of other motivational theories. These are presented and discussed in the following paragraphs.

b) Maslow's Theory of Motivation

Maslow, in 1943, suggested that human needs are arranged in a hierarchy from the most pressing (lower scale) to the least pressing (see Figure 4.2-next page). In his theory, Maslow made an important distinction between socio-psychological motives and physiological ones (Foxall, 1991). Especially in cases like food consumption, Maslow's theory is consistent with market reality, where low income consumers will buy low added-value products in order to satisfy their hunger, while better off consumers will ask for more value added and premium products to satisfy less basic, arguably, more ethereal needs.

According to some criticisms, Maslow's theory does not provide a general framework as it does not cover all cases (e.g., self-preservation versus ensuring the preserve of the species;

Foxall and Goldsmith, 1994). Maslow's hierarchy, however, provides a handy framework that can help in the initial steps of motivation analysis. Still, this framework needs to be less abstract if it is to be used for marketing decision-making.

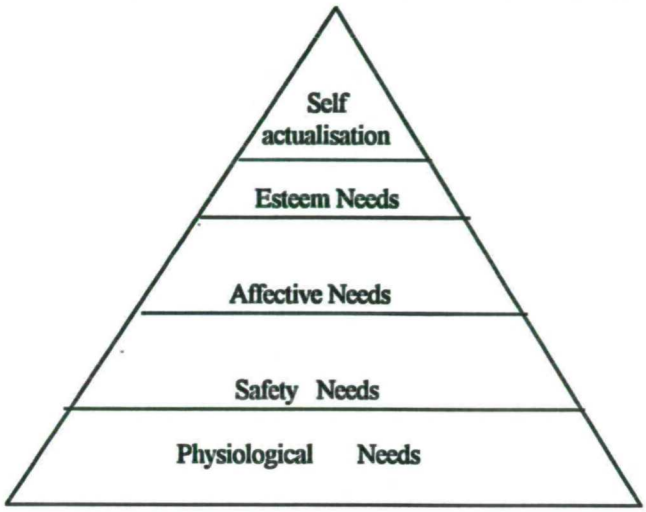


Figure 4.2. Maslow's Pyramid of Motives

For this reason, a typology of needs and consumer motivations has been developed which parallels Maslow's pyramid, while focusing on the needs that consumers endeavour to satisfy through purchasing behaviour (Foxall and Goldmsith, 1994). This typology, as interpreted by this researcher, is presented in Table 4.3 (next page).

c) Social Theories

These have been developed mainly by neo-Freudian social theorists. Some members of Freud's 'inner circle' became disillusioned with his insistence on the biological basis of behaviour and began to develop their own views. The most important of them and their theories, as presented by Lutz (1991), are:

Alfred Adler believed that the basic human drive is not channelling the libido but, rather, the striving for superiority. Therefore, consumers buy certain products in an effort to feel superior to others. This can probably be related to the self-esteem need presented in Table 4.3.

Eric Fromm stressed people's need for love, security and companionship. It is seen by this author as related to belongingess in Table 4.3.

Table 4.3. Maslow's Hierarchy of Needs and Consumer Motivation in Hanna's Typology

Maslow's Needs	
Self Actualisation	***Personal growth*** **- The need to consume products so as to be or become one's own unique self (self-improvement classes)** ***Influence over others*** **- The need to feel one's impact on others' consumption decisions (may underlie the behaviour of opinion leaders or innovators)**
Self - esteem	***Recognition from others*** **- The need to consume products so as to be acknowledged by others as having gained a high status in one's community (designer clothes)**
Belongingness	***Acceptance by others*** **- The need to consume products so as to be associated with a significant other or a special material comfort - The need to consume a large and/or luxurious supply of material possessions (luxury goods, new products)**
Safety needs	***Material security*** **- The need to consume an adequate supply of material possessions (risk - reducing buyer behaviour)**
Physiological needs	***Physical safety*** **- The need to consume products so as to avoid harm or danger in their use, and to preserve clean air and water in the environment (seat belts, ecologically sound products).**

Source: Adopted by Foxall and Goldsmith (1994, p.154)[29].

Karen Horney pointed out the importance of anxieties rooted in childhood. According to the typology developed by Horney there are three orientations towards coping with anxiety, that is, the compliant, aggressive and detached types. This typology, while tested in connection to consumer behaviour, gave some interesting results (e.g., in after-shave consumer segmentation) and, as Lutz (1991) suggests, it may have some relevance to marketing.

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[29] Initial source: "Hanna, G. (1980) 'A typology of consumer needs', in J.N. Sheth (ed.). Research in Marketing, 3, Greenwich, CT:JAI Press".

4.7.5 Involvement

According to Lilien *et al* (1992), not only do consumers differ from one another, but, even the same consumer may behave in a different way when making purchase decisions. It is claimed, that it is the level of involvement that will determine the amount of cognitive development[30], and effort and search that will be invested on a specific purchase (ibid.).

4.7.5.1 Definition of the Construct

Researchers have made significant efforts to define and describe involvement. Cohen (1983) emphasises the plurality of views that co-exist in the relevant literature regarding the meaning of what is termed as involvement - a concept often described as a pot-pourri of ideas (Laurent and Kapferer, 1985, Mittal and Lee, 1989).

Some involvement definitions that appear in the relevant literature are presented herein. These definitions enlighten the fine character of the concept and its relevance to other concepts discussed in this chapter, such as motivation, goals and personality[31].

Some involvement definitions are summarised by Mittal and Lee (1989, p.364) including:

> "-Involvement is said to reflect the extent of personal relevance of the decision to the individual in terms of her basic values, goals, and self-concept (Engel and Blackwell, 1982);
> -There is a consensus that high involvement means (approximately) personal relevance or importance (Greenwald and Levitt, 1984);
> -Involvement is an internal state variable that indicates the amount of arousal, interest or drive evoked by a particular stimulus or situation (Mitchell, 1979, 1981);
> -Involvement may be defined as a goal-directed arousal capacity (Park and Mittal, 1985)".

Bloch and Richins (1983, p.70) adopt two of the definitions used in the literature:

> "-Involvement is the general level of interest in the object or the centrality of the object to the person's ego structure (Day, 1979, p.45);
> -Involvement is the number of values engaged by the product, the centrality of these values and the product's relatedness to those values (Tyebjee, 1979, p.99)".

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30 "Cognitive development is the development of awareness and/or comprehension of points salient to the individual in regard to the issue; it is the establishment of a set of beliefs based on knowledge. Knowledge can range from mere awareness to a thorough understanding of the issue or object" (Rothschild, 1975, p.217).

31 A discussion about personality is presented in paragraph 4.7.6.1.

For a researcher to accept only one of the definitions presented above, and neglect the rest, would mean disregarding years of profound research work related to the refining and development of the concept. Some recent definitions, however, do present more refined forms of the concept. It is the author's view that the following two definitions of involvement are not only the most concrete and revealing, but also, the most appropriate for the specific research problem in-hand.

The first definition comes from Rothschild (1984) who, reviewing developments and problems in involvement research, suggested the acceptance of a generic definition of involvement that had been proposed at a seminar held at New York University in June, 1982.

> " Involvement is a state of motivation, arousal or interest. This state exists in a process. It is driven by current external variables (the situation; the product; the communications) and past internal variables (enduring; ego; central values). Its consequences are types of searching, processing and decision-making" (Rothscild, 1984, p.217).

This definition is accepted because it integrates not only involvement, but also, other variables that influence it or are influenced by it. The second definition is adopted by Mittal and Lee who define involvement :

> "as interest in a goal-object" (1989, p.366).

This definition is accepted because it directly relates involvement to a goal-object and, thus to needs, motives and benefits (4.7.4.1).

4.7.5.2 Some Conceptual Clarifications Regarding Involvement

4.7.5.2.1 Product Importance as Related to Involvement

The relationship between product importance and product involvement has received a lot of attention as the two concepts have often been seen as highly inter-related if not identical. In Greenwald and Levitt's definition of involvement presented in the previous section, involvement 'means personal relevance or importance'. Bloch and Richins (1983, p.63) note that "a variety of names have been used to refer to 'product importance', including purchase importance, task importance, product commitment, ego involvement and product involvement"; they go on to adopt a series of product importance definitions, as being the most clear and complementary:

a) "The term product importance is used to signify importance as perceived by consumers, rather than some objective level of importance strictly inherent within the product itself. Thus, product importance ... reflects perceived product importance " (ibid., p.69);

b) "Perceived product importance is the extent to which a consumer links a product to salient enduring or situation-specific goals" (ibid., p.71);

c) "Instrumental importance is a temporary perception of product importance, based on the consumer's desire to obtain particular extrinsic goals that may derive from the purchase and/or usage of the product"[32] (ibid., p.72).

d) "Enduring importance is a long-term, cross-situational perception of product importance based on the strength of the product's relationship to central needs and values" (ibid., p.72).

Bloch and Richins, also, identify that research concerning product importance has covered a variety of topics, and that the construct has been said to influence the consumer decision making process, the post-decision process, responses to marketing communications, the level of consumer effort expended in the prepurchase context, and opinion leadership.

Now, according to Kapferer and Laurent (1985, p.48), "consumer involvement in products is believed to moderate considerably their reactions to marketing and advertising stimuli. Therefore, it should affect copy, format, media and repetition decisions".

A cursory review of the relevant literature and research work mentioned above could lead one to the conclusion that Bloch and Richins, and Laurent and Kapferer write about very similar, if not identical, theoretical constructs. However, this is not the case as Bloch and Richins separate the two constructs in a very distinctive way. As they state: "Product importance reflects an individual's perception that his/her actions concerning a product matter. The perception of product importance, therefore, represents a cognitive state of awareness or realisation. Product involvement, on the other hand, may be thought of as the motivational state that results from the stimulus of product importance perceptions" (1983, p.73).

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[32]Bloch and Richins, also, make it clear that product importance, as perceived by consumers and studied by researchers during a purchase occasion, will include elements of both instrumental and enduring importance. Later, this will be shown to be related to product enduring and situational involvement (4.7.5.3.1).

Furthermore, they state that a person will not feel involvement with a product that is not perceived to be important. This author feels, however, that a product itself can be viewed as not 'important' for consumers; but, it can be related to important issues such as animal welfare, political positions, health, etc. This potential link can be used by marketers to evoke consumer interest towards a product that, initially, might be considered unimportant and with a low involvement level. In this dissertation, product importance will be treated as a facet of product-involvement (see section 4.7.5.3.3). Mittal suggests that importance-facet in Laurent and Kapferer denotes product involvement. But, if someone is sign-involved and not importance-involved, still, she will be product involved. So, the author disagrees with Mittal on this point!

4.7.5.2.2 Involvement as a Motivational Force

Another point that requires further clarification is the relationship between involvement and motivation. According to Beharell and Denison (1994), involvement has been recognised by a number of writers as a motivational force.

Reber (1985) defines a motive as "a state of arousal" (p.455), and motivation as "an internal state of an organism that implies and drives it to action" (p.454). He also explains that:

> a) "some theorists view the motivational state as one of general arousal without any specific goal or directionality but rather what is known as a *generalised energiser* or a *generalised drive*";
>
> b) while "most other theorists... argue that motivational states are specific to particular drives and needs and must always be analysed in terms of specific goals and directionality" (p.454).

Mittal (1982, p.47), reviewing the literature, found that "Mitchell (1981) described involvement as a state of variable (like motivation) which has direction and intensity" and agreed on the directionality of involvement, stating that "there can be no such thing as involvement due to object and involvement due to the individual. There is only involvement of an individual toward an object" (p.56).

In this dissertation involvement will be seen as a motivational state that is motives specific, and has direction and intensity. As Laurent and Kapferer (1985) phrase it: " ... involvement

is considered an individual difference variable. It is a causal or motivating variable with a number of consequences on the consumer's purchase and communication behaviour" (p.42).

Although motivational theory contributed to the conceptual development and the establishment of the goal-objective nature of involvement, researchers often (especially in earlier days of involvement research), used involvement as a broader term than a motivational force. Cohen (1983), reviewing the relevant literature, reports that researchers used the term involvement to refer either to pre-existing motivational aspects or to an integrated set of information processing operations. He has contributed to the clarification of the concept by separating involvement, involvement antecedents and effects (see 4.7.5.3).

4.7.5.3 The Role of Involvement in Consumer Research

For market researchers and marketing managers to be able to influence the purchase decision process, it is essential to know, and to be able to influence, not only its structure but, also, how extensive it is as well - that is the importance accounted and effort invested by the purchaser at each stage of the purchase decision. According to Lilien *et al* (1992), the concept of involvement has played an increasingly important role in explaining consumer behaviour, consumer reaction to marketing stimuli, and to the product purchasing process. In the last fifteen years, considerable attention has been paid by researchers into what involvement represents, how it can be measured and its implications for decision-making at a managerial level (Mittal, 1982; Kapferer and Laurent, 1985).

As a result of this effort, forms, antecedents, facets, effects and levels of involvement have been identified and their impact on behaviour have been studied. Relevant research work and findings are discussed in the following paragraphs.

4.7.5.3 Forms, Antecedents and Sources, Facets, and Effects of Involvement

4.7.5.3.1 Forms of Involvement

Mittal and Lee (1989, p.365) distinguished two forms of involvement and they defined them as follows:

> *"Product Involvement* is the interest a consumer finds in a product class. Such interest stems from the consumer's perception that the product class meets important values and goals[33].
>
> *Purchase involvement* or *brand-decision involvement* is the interest taken in making the brand selection."

Zaichkowsky (1985a), reviewing the relevant literature, reports that a person can be involved with advertisements, with products, or with purchase decisions. Mittal and Lee actually "employ product- /purchase-involvement terminology, as does Zaichkowsky, simply because... [these] terms would allow situational variation in product involvement" (1989, p.365). An example may clarify this distinction. A person might not be involved with sliced yellow cheese used in sandwiches as a product class. However, a certain brand might be perceived as being less risky than others in terms of product quality. So, the person pays special attention to the brand choice. In this case, the person is purchase-involved without being product-involved.

Other researchers use a range of terms to describe the same concepts. So the term "product involvement as purchase item-specific", used by Clarke and Belk (1979, p.313), strikes this researcher as being equivalent to Mittal and Lee's purchase involvement. Mittal and Lee also find that the distinction between product involvement and purchase involvement "parallels Houston and Rothschild's (1977) enduring/situational involvement dichotomy" (1989, p.313). For example, purchase involvement does not express a strong personal interest in champagne, *per se*. Using concepts appearing in Bloch and Richins' work, (1983), one could say that, because champagne is not an enduringly important product for this person (4.7.5.2.1), the person is not enduringly involved, or, product involved. When, however, this person buys a bottle of champagne to offer it as a gift to an important person, then, at that specific point in time and situation, situational involvement is observed (due to the

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[33]This definition of product involvement is redolent of value-expectancy theories presented in section 4.7.3.3, and shows a link between involvement and attitude formation. This link is discussed in section 4.7.5.3.4 (the examination of the causal flow of this link, however, is not one of the aims of this dissertation).

product instrumental imortance)[34] and the person pays close attention to the choice (purchasing involvement).

Some difficulties might arise when food purchase and consumption are the actions under consideration. In this case, the roles of purchaser and consumer are either distinct or overlap. In the case of cheese purchasing, for example, the housewife purchases the food; she uses it to provide satisfaction for other members of the family but, also, she consumes it herself. How easy or, indeed, realistic it is to identify and measure separately product and purchase involvement will be discussed later in this dissertation (Chapters 5, 6, and 7).

4.7.5.3.2 Involvement Antecedents and Sources

Cohen, searching for a "good definition of involvement" (1983, p.327) made a significant contribution to the field. He developed the concept by proposing a definition that separates:

> "(1) the activation directed toward a stimulus (i.e. involvement) from (2) the particular goals, belief and interests, as well as particular stimulus factors (e.g., novelty, intensity, complexity, distraction) that, as antecedent variables, affect the level and degree of focus of involvement and from (3) subsequent involvement induced responses (from attention through cognitive responses to, possibly, overt behaviour)" (ibid., p.326).

For Mittal and Lee (1989), the term antecedent "means '*one* of the causes' that will give rise to the stipulated effect" (p.366), for example, "product involvement is an antecedent of purchase-decision involvement" (p.365). However, "the term *antecedent* does not imply a *necessary* cause"... therefore, "purchase-involvement can occur without much product involvement... [however], if the product class itself is involving, then the purchase decision for that product will not be made casually" (p.365). So, if product involvement occurs, purchase involvement cannot be casual. For example, on one hand, a non-imbiber of wine may be interested in the purchase of a bottle of wine that can be offered as a gift to his/her boss (purchase involvement without product involvement). Yet, a wine connoisseur (product involved), cannot buy a wine without been interested in the actual purchase (purchase involvement

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[34] in Bloch and Richins (1983) terms - see section 4.7.5.2.1.

caused by product involvement). So purchase involvement can occur without much product involvement, whereas, product involvement, invariably, will cause purchase involvement. Therefore, product involvement can be qualified as an involvement antecedent, because it causes another form of involvement, that is, purchase involvement.

A consideration of the relationship between enduring/instrumental importance and product/purchasing involvement was addressed briefly in the previous section (4.7.5.3.1). Enduring or instrumental importance of the product can **cause** product or purchase involvement, respectively, and be an antecedent of involvement.

Several researchers[35] have identified sources of involvement in relation to consumer goals. Indeed, according to Mittal and Lee (1989, p.366), for an object to evoke interest, it must satisfy certain goals, named as:

> "(a) utilitarian, i.e., economic, rational, functional goals - these concern the physical performance of a product (Sheth, 1974);
>
> (b) sign-value, i.e., social, self-concept related, or impression management goals (Sheth, 1974; Sirgy, 1982; Laurent and Kapferer, 1985);
>
> (c) hedonic, i.e., sensory pleasure or experiential goals (Holbrook and Hirshman, 1982)".

The same researchers, having differentiated two distinct forms of involvement, that is, involvement at the product and brand decision levels, define six sources of involvement (1989, p.366):

> "Product - sign value. The possession of the product category has symbolic value to the individual. It helps a person express him/herself, to show who or what he/she believes he/she is like;
>
> Brand - sign value. The particular brand to be chosen is seen to possess some symbolic value. Choosing/using one brand rather than another helps an individual express himself/herself, to show who or what he/she believes he or she is like;
>
> Product-hedonic value. The capacity of a product category to provide hedonic value, i.e., pleasure and affect, to a consumer;
>
> Brand-hedonic value. The capacity of the chosen brand to provide, in the perception of the consumer, pleasure and affect in amounts greater than just any brand;
>
> Brand risk .The perceived risk associated with the selection of one rather than another brand, including an opportunity loss if a consumer happens to buy an inferior brand;

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[35] Celsi and Olson, 1988; Laurent and Kapferer, 1985; Mittal ,1989c; Mittal and Lee, 1989.

> Product utility. This is the product level parallel to the brand risk facet[36]. It consists of perceived benefits derived from the use of a product class itself. Not using the product class implies opportunity loss".

Regarding the relationship between antecedents and sources of involvement, Mittal and Lee see their sources as "the most-proximate antecedents" (1989, p.370) of involvement.

The above can be seen as related to the motivational theory of attitude formation (also called the functional theory of attitude formation, see 4.7.3.3). Indeed, Mittal (1982) explains that two broad categories of motives are particularly relevant to consumer research and uses Katz's description of these categories as follows:

i) utilitarian or functional, that is, the motive to maximise one's gains from the environment; and

ii) expressive, that is, the motive to express one's self-concept to others.

Further, he suggested a limited causal model for involvement (Mittal, 1989c), in which he classified involvement antecedents and sources in two broad categories: Psycho-social Goals and Opportunity loss; and Utilitarian Goals and Opportunity loss. Both categories comprise goals such as utilitarian, sign and pleasure, and cause involvement.

These distinctions are also in agreement with a combination of the 'information processing-rational' and the 'experiential' paradigms, focused at explaining consumer behaviour, presented earlier in this chapter (section 4.4) and, also, with Lancaster's theory of consumer-product attributes relation. It seems that researchers exploring consumer behaviour take into consideration, not only rational-utilitarian but, also, emotional and self-related elements when exploring the interest of an individual towards an object. It also seems that this approach evokes researchers' interest for commercial use as well. Warren and Vangelder, covering 'new trends' in papers presented at the ESOMAR Congress at Davos in 1994, report papers in which emotional and rational attributes of a brand are differentiated, while identifying varying sets of needs in different markets.

At this stage in the literature review, it is hoped that, an adequate explanation has been presented as to how the concepts of motives, goals, attitudes, product attributes and

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[36] See section 4.7.5.3.3.

involvement are interrelated. These concepts are of complicated character explaining, in part, the substantial efforts undertaken by consumer researchers to define and clarify them.

4.7.5.3.3 Involvement Facets and Involvement Profiles

In 1984, Rothscild (p.217) proposed a ten year moratorium on definitions of involvement, suggesting to involvement researchers: "let's go collect data on interesting aspects of involvement and then, in ten years, see if we can (or need to) devise a better definition". A decade later, this involvement literature review reveals a considerable amount of work extant regarding involvement characteristics and measurements (Zaichkowsky, 1985a,b; Mittal and Lee, 1989; Mittal, 1989a,b,c; Laurent and Kapferer, 1985; Kapferer and Laurent, 1985; Dimanche *et al*, 1991).

An important issue appearing in the literature relates to the dimensions associated with involvement. Authors saw involvement as related to Katz's motivational theory (Section 4.7.3.3) and, eventually, to two broad categories of motives, that is, utilitarian or functional, and expressive. According to Mittal (1982, p.71), "corresponding to these motives, then, it is postulated that there are two types of involvement; involvement functional (F) or the involvement that is manifested when a utilitarian/functional motive is invoked and, involvement-expressive (E) or involvement that is manifested when an expressive motive is evoked".

Further, he explains that one or both of these types of motives can underly involvement; and that, although sometimes both these motives may be equally prevalent, in most cases, one of the two is likely to be dominant over the other.

In 1979, Lastovicka and Gardner suggested that involvement was best thought of in terms of two underlying components, namely, normative importance and commitment[37].
Muncy and Hunt (1984, pp.194-195) distinguish five types of involvement:

> i) Ego-involvement which, in consumer behaviour, "addresses the question of how the consumer's value system is engaged when purchasing a product".

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[37] As the authors explain "normative importance refers to how connected or engaged a product class is to an individual's values. Commitment seems best thought of as the pledging or binding of an individual to his brand choice" (1979, p.68).

ii) Commitment, seen mostly as loyalty.

iii) Communication involvement, which has two main characteristics:

a) it occurs only during communication;

b) any aspect of the person's life can be engaged, not only his/her value system.

iv) Purchase importance, which is an exogenous variable.

v) Response involvement, defined by "Houston and Rothschild (undated)... as 'the complexity of cognitive and behavioural processes characterising the overall consumer decision process' ".

In providing this typology, Muncy and Hunt helped in the clarification of the involvement concept although, in this author's view, their five-fold typology encompasses: involvement sources (purchase importance and self-expression), and involvement consequences (commitment, response involvement).

Laurent and Kapferer (1985), in what has been characterised as an important paper (Mittal and Lee, 1989) and, in line with "Kiesler, Collins, and Miller (1969) ...[calling involvement] a pot-pourri concept which may encompass several independent elements" and with "Rothschild (1979) ... [who] concluded that no single indicator of involvement could satisfactorily describe, explain, or predict involvement" suggested that "marketing researchers [should] stop thinking in terms of single indicators of the involvement level and instead use an 'involvement profile' to specify more fully the nature of the relationship between a consumer and a product category" (Laurent and Kapferer, 1985, p.41).

Indeed, when they reviewed involvement theory, they found that the word involvement is generally used with a qualifier (e.g., emotional, personal, ego) related to sources of involvement. As they suggested "undertaking of the sources of involvement provides a dynamic picture of the consumer's subjective situation and gives clues as to what appeals should be used in communicating with consumers" (ibid., p.43).

Thus, Laurent and Kapferer produced five what they called (interchangeably) antecedents or facets of involvement. These facets of the involvement profile are:

"1. The perceived importance of the product (its personal meaning).

2. The perceived isk associated with the product purchase which, in turn, has two facets (Bayer, 1967):

-the perceived importance of negative consequences in case of poor choice, and

-the perceived probability of making such a mistake.

3. The symbolic or sign[38] value attributed by the consumer to the product, its purchase, or its consumption. This differentiates functional risk from psycho-social risk (Bayer, 1967)

4. The hedonic value of the product, its emotional appeal, its ability to provide pleasure and affect" (1985, p.43).

According to these authors, facets of involvement provide cues as to what types of appeals should be used in communication with consumers that share the same involvement profile. Their method also provides average involvement profiles for various product categories.

Mittal (1989c, p.697), commenting on the interchangeable way in which Laurent and Kapferer use the terms antecedents and facets, states that it "obscures the issue of dimensionality". For him, when Laurent and Kapferer measure the importance facet, this represents involvement proper, while pleasure and sign facets should be modelled as antecedents (psycho-social) of involvement. Also, he views the risk facet as an involvement antecedent (utilitarian).

In this dissertation the term facets of involvement will be used to indicate involvement sources and antecedents. Furthermore, in addition to the Laurent and Kapferer recommendation, that is, the use of an involvement profile, rather than a single involvement level, it seems to this researcher that antecedents and sources of involvement (or facets) are not necessarily the same for all products and all consumers.

In identifying their five facets of involvement, Laurent and Kapferer chose to review current research and practices, perhaps, because their work was "driven by concern with aiding managerial decision making" Mittal (1989, p.697). Their choice is in agreement with a central purpose of this dissertation, which is to develop conceptual and analytical frameworks that can be used by marketing managers.

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[38] The terms sign and symbol are used alternatively, where the sign is the concrete element that represents the abstract or symbolic (Leber, 1985).

How involvement forms, antecedents and facets are used in involvement measurement will be discussed in a later section (4.7.5.4)

4.7.5.3.4 Effects of Involvement

It has been said that consumer behaviour is of particular interest to those who, for various reasons, desire to influence or change that behaviour to their profit. Marketing managers try to do so through effective use of marketing stimuli. It seems that involvement has a crucial role in this effort as *"consumers' involvement in products is believed to moderate considerably their reactions to marketing and advertising stimuli"* (Kapferer and Laurent, 1985, p. 48). Indeed, the interest of market researchers in involvement was particularly stimulated after Krugman's suggestions in the 1960's that forced researchers and marketers alike, to reflect if consumers are active or passive receivers of television advertising (Lastovicka and Gardner, 1979)[39].

Lastovicka and Gardner, back in 1979, although still wondering if involvement was a *"can of worms"*, stated that *"involvement is a crucial variable in explaining how advertising influences attitude structure"* (p.68). According to Mittal (1989c, p.698), *" [although]... attitude and involvement are distinct constructs ... involvement mediates attitude formation and change"*. Putrevu and Lord, in a recent study (1994), demonstrated that the interaction of product involvement and advertisement message format determines the relative efficacy of comparative and non-comparative appeals in changing attitudes.

In this researcher's opinion, the background for the above is housed in the functional theory of attitude formation (i.e., Katz's theory of motives), consumer goals, and involvement as a motivational stage. As Lutz (1991, p.328) explains *"we might say that attitudes exist in order to assist the individual in meeting certain goals of fulfilling underlying needs. A general term which we can use is that attitudes reflect basic motives of the individual"*. Because attitudes have been

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[39]According to the classical approach, receivers are active and, thus, engaged in "active search, avoidance, screening and distortion of persuasive messages" while, according to "Krugman's (1965, 1966, 1966-67, 1970) proposal, ... television advertising is a special communication situation in which receiver responses are akin to the passive learning of nonsense syllables" (Lastovicka and Gardner, 1979, p.53).

defined as predisposition to behaviour (4.7.3.1), it seems of utmost interest to study concepts that influence them[40], such as involvement.

Involvement related concepts (e.g., forms, facets) have been seen as major determinants of various aspects of consumer behaviour, such as: extensiveness of decision-making, interest in advertising and counterarguments to the advertisement, social observations, shopping enjoyment, brand commitment, product usage, repetition decisions, greater perception of attribute differences, commitment to brand choice (Clarke and Belk, 1979; Vaughn, 1980; Kapferer and Laurent, 1985; Mittal and Lee, 1988 and 1989; Zaichkowsky, 1985a,b; Bloch *et al*, 1986). Involvement effects have been extensively researched and a brief review of major studies and findings follows.

Rothscild (1975) examined "the concept of involvement as an intervening variable between the stimulus of advertising and several types of behavioural responses" (p. 216). His data from two field studies showed that involvement is a discriminator for predicting decision-making styles. Clarke and Belk (1979) researched, with significant results, the relationship between involvement and number of stores visited, and time and money spent.

In 1979, Tyebjee, constructed an information procession model of 'choice time'. His purpose was "to identify the effect of brand preference structure and product involvement on the choice time between alternative brands of this product" (p.302). Although his hypothesis about the effect of brand preference structure on choice were supported by his findings, the moderating influence of product involvement did not receive empirical support in the same study.

Arora (1982) tested a Houston and Rothschild's paradigm which classified involvement as situational, enduring and response (S-O-R paradigm). His results supported this paradigm and the direction of effect from S to O to R.

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[40] The study of <u>how</u> involvement influences attitude change, however, is not within the scope of this dissertation.

Kapferer and Laurent (1985) searched for relationships between involvement facets and extensiveness of the decision process, brand commitment and readership of articles on the product category, and found some statistically significant results.

Bloch *et al* (1986), in a study of consumer search, showed a strong link between enduring product involvement and on-going search[41], while the results of a study conducted by Celsi and Olson, in 1988, provided strong evidence that "felt involvement plays a motivational role in consumers' attention and the comprehension process" (p.210)[42].

Mittal and Lee (1989) tested an integrated causal network of forms (i.e., brand-decision involvement and product involvement), sources (as related to consumer goals: i.e., utilitarian, sign, hedonic) and effects (i.e., consumer behaviour, such as: extensiveness of decision making, interest in advertising, social observations, shopping enjoyment, brand commitment, product usage) of involvement for VCRs and jeans. The research results supported their hypotheses, viz.:

> "1) Product involvement proved significant as an antecedent of brand-decision involvement.
>
> 2) Three hypothesised antecedent sources for product involvement explained large portions of its variance.
>
> 3) Four hypothesised antecedents (3 sources and 1 form) of brand-decision involvement explained a substantial portion of its variance.
>
> 4) Among the two forms of involvement, the form hypothesised to be more influential over the other did indeed turn out to be so for 8 out of 10 possible instances (2 products x 5 behaviours).
>
> 5) An important finding of our research is that while several 'sources' of involvement had significant direct correlations with the investigated behaviours, ... in a majority of instances (7 out of 12) these 'sources' failed to make significant additional contributions beyond that made by either one or both the forms of involvement. This result indicates that ... the sources influence consumer behaviours largely through the forms of involvement (rather than directly)." (Mittal and Lee, 1989, p.383).

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[41] On-going search is "search occurring outside of the purchase process" (Bloch *et al*, 1986, p.119).

[42] "The concept of felt involvement refers to a consumer's overall subjective feeling of personal relevance"(Celsi and Olson, 1988, p.210). It is used "to emphasise the experiential, phenomenological nature of involvement"(ibid., p. 211).

Their major contribution was that they offered an applicable involvement model that relates and tests the causal flow between involvement antecedents, forms and effects.

4.7.5.4 Measurement of Involvement

Looking at the plethora of research work related to involvement, the numerous definitions of the concept and the evolution of the conceptual structure of the term, it is easy to understand the difficulties that researchers faced while developing involvement measurements. Indeed, it seems that for a long time there was not agreement on what involvement represents and, often, researchers referred to the concept as 'a pot-pourri of concepts' (Laurent and Kapferer, 1985; Mittal and Lee, 1989) or 'a can of worms' (Lastovicka and Gardner, 1979). However, the clarification that profound research work provided concerning the concept's structure (i.e., involvement antecedents, sources, forms and effects) contributed significantly to the development of measurement of involvement.

In this part of the literature review major elements related to involvement measurements will be discussed, for example, forms, unidimensional and multi-dimensional approaches, structure and properties. Then, major instruments developed to measure involvement will be reviewed[43].

4.7.5.4.1 Form of Involvement Measurements

A number of diverse measures have been used to measure the level of involvement and are reported by Zaichkowsky (1985a), including : rank-ordering products; asking how important it is to get a particular brand; or finding the total times that subjects report 'don't know' for a series of brands. The measurements developed are usually scales and, as Zaichkowsky concludes, *"on a broader level, involvement has been measured by administering Likert statements that were thought to tap the underlying concept"* (p.341). She used a semantic differential type scale because, as she argues, it can be effectively used for many products; but, as this literature review reveals, most researchers prefer Likert type scales for measuring involvement, for example, Lastovicka and Gardner, 1979; Bloch, 1981; Laurent

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[43] see also Appendix 2.

and Kapferer, 1985; Mittal and Lee, 1988; Slama and Tashchian, 1985. According to Bloch, Likert type scales are "recommended by Houston and Rothschild (1978) for use in assessing individual differences in product involvement" (1981, p.62).

As we have seen, Likert scales are also used for attitudes measurement - thus raising an issue: the potential danger of using an attitude-like term in an involvement scale (Mittal, 1989c; Zaichkowsky, 1985a). Some senior researchers view that "the inclusion of attitude-like items in a scale of involvement confounds the latter (Bagozzi, 1981)" (Mittal, 1989c, p.698). Indeed, if attitude-like items are included in an involvement measuring scale, then, it is attitudes that are measured and not involvement. Moreover, the difference between attitude and involvement has already been discussed in this dissertation[44].

Major issues regarding involvement measurement scales are discussed in the following sections.

4.7.5.4.2 Multidimenstional and Unidimensional Approaches

Lastovicka and Gardner (1979) determined that "involvement is a multidimensional concept" (p.58). Still, they used the term underlying components instead of dimensions for their findings (i.e., normative importance and commitment).

Laurent and Kapferer (1985) state that "the involvement literature and in-depth interviews with advertising managers suggest that the hypothetical construct 'involvement' is not a unitary one"(p.42); thus, probably because the term involvement is usually used with a qualifier (e.g., emotional, enduring, etc.), indicating different aspects of involvement.

In 1989, Mittal, stated that involvement, seen as an activated motivational state, is unitary and unidimentional and it should be measured as such (1989c). In this dissertation, Mittal's view is adopted, as in Mittal's general model of involvement, building on Cohen (1983). In this model, the following are well distinguished:

a) involvement antecedents and sources;

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[44] See section 4.7.5.3.4.

b) involvement proper;

c) and involvement effects.

Measuring involvement antecedents and sources, differs from measuring involvement proper or involvement effects. The term facets is used, in this dissertation, to denote involvement antecedents and sources.

4.7.5.4.3 A Review of Involvement Measurements

Most of the involvement scales appearing in the literature assess: involvement general to several products; involvement with specific class of products; and purchasing involvement (Bearden *et al*, 1993 - see also Appendix 2). Here, involvement scales as appearing in the literature are reviewed. In this review, emphasis is put on the conceptual structure of the scales, rather than on their properties as discussed in the psychometric literature. The latter are examined and discussed in detail in another part of this dissertation[45].

It has been said that researchers, while developing involvement measurement scales, are driven either by a multidimensional or a unidimensional view of involvement. Back in 1979, Lastovicka and Gardner confirmed the multidimensional nature of the concept with two studies. Their first study, for a set of ten products and services (i.e., life insurance, nappies, dental care, suits, automobiles, facial tissues, toothpaste, beer, houses and blue jeans) suggested two independent components of involvement, namely, normative importance and commitment.

Their second study, for a different set of products (i.e., light bulbs, sleeping bags, facial tissues, screwdrivers, blue jeans, blankets, athletic shoes, automobiles, toothbrushes, canvas, tents, beer, hi-fi speakers, suntan preparations and hand soaps), revealed dimensions such as normative importance, commitment and familiarity.

Bloch (1981) argued in favour of a measurement specific to a product class and suggested that, in this case, scale items would be more relevant and meaningful. Also, he claimed that Lastovicka and Gardner's generalised multi-product scale items "appear ambiguous and may

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[45] See Chapter 5.

not capture how a consumer really feels about any one product" (p.61). Thus, he developed a scale to assess involvement with automobiles. He reported findings that revealed six dimensions of the scale:

- enjoyment of driving and usage of cars (1);
- readiness to talk to others about cars (2);
- interest in car racing activities (3);
- self-expression through one's car (4);
- attachment to one's car (5);
- interest in cars (6).

Furthermore, he considered that the dimensions identified in his study are in agreement with aspects of product involvement well established in earlier literature, that is, "(1), (4) and (5) capture the centrality orientation of involvement, while ... (2), (3) and (6) concern product interest" (ibid., p.63).

Zaichkowsky (1985a,b) reported earlier attempts to capture the underlying concepts related to involvement (i.e., sources and antecedents of involvement), and adopted a unidimensional view of the concept herself. She conducted a series of studies for the development of what she called a Personal Involvement Inventory (PII). She tested her scale for a number of products and samples (i.e., 1st study: watches and athletic shoes; 2nd study: calculators and mouthwash; 3rd study: breakfast cereals and red wine; 4th study: 35mm cameras, red wine, breakfast cereals; 5th study: instant coffee, colour television, laundry detergent).

In her semantic differential scale, she dropped items that included traditional measures of attitudes (such as: good - bad, like - dislike, etc.). Mittal (1989c), however, reviewing her scale states that she still uses "attitude-like" items and "merely truncates the range of the attitude construct rather than eliminates it" (p.698). Also, he argues that while she adopts a unidimensional point of view "the 20 items in her scale did *not* constitute a unidimensional construct...Conceptually, content analysis of the PII items shows that it contains at least 3 distinct constructs:

(1) involvement proper...;
(2) a hedonic factor...;
(3) and an attitude-like construct..." (ibid., p.698).

Mittal, in his doctoral dissertation (1982), developed an instrument for brand involvement measurement, using a Likert type scale. He measured brand involvement using a single-item scale (products used: detergent, batteries, salt, headache remedy, canned peas, automobile, wine, facial tissue, stereo, perfume, light bulb, ball point pen, dry milk, jeans, music album). Then, he tested the functional or psychological character of each product. However, according to Zaichkowsky (1985a), single-item measures may not capture the total involvement concept.

Laurent and Kapferer (1985) developed a scale (in the French language) to measure involvement profiles. To do so, they viewed involvement as *"a multi-faced construct along five dimensions (i.e. antecedents)"* (p.41). They tested their scale for 14 product categories (i.e., dresses, bras, washing machines, TV sets, vacuum cleaners, irons, champagne, oil, yoghurt, chocolate, shampoo, toothpaste, facial soap, detergents). They identified four facets, that they believed to be interdependent:

> "1) Imporisk (the perceived importance of the product and the perceived importance of the consequences of a mis-purchase).
> 2) The subjective probability of a mis-purchase.
> 3) The hedonic value of the product class.
> 4) The perceived sign value of the product class" (Laurent and Kapferer, 1985, p.44).

Dimanche *et al* (1991) tested a translated version of Laurent and Kapferer's scale (in English), in the context of leisure activities. They also identified four dimensions (i.e., sign; importance-pleasure; risk probability; risk consequence), similar but not identical to those identified by Laurent and Kapferer. Mittal (1989c) suggests that, if Laurent and Kapferer recognise involvement facets to be antecedents, then, they do not really measure involvement proper, but its antecedents. He agrees, nevertheless, that the part of Laurent and Kapferer's scale measuring importance facet might capture purchasing involvement, if properly modified.

Slama and Tashchian (1985) developed a 33 six-point Likert items scale to measure final consumer involvement with the purchasing activity.This scale does not capture any involvement antecedents.

Mittal (1989a) put emphasis on the distinction between consuming and purchasing activities and developed a 4 item purchase decision involvement scale. Each item receives a mark on a 7-point bi-polar scale.

Some of the scales mentioned above have been further tested, though previously modified, by other researchers. Thus, according to Bearden (1993), Zaichkowsky's scale has been used by McQuarrie and Munson in 1986, concluding that the scale measures enduring involvement. According to the same source, another scale based on the work of Zaichkowsky, and McQuarrie and Munson, has been used by Higie and Feick, in 1988, to measure enduring involvement, while Zaichkowsky used a smaller form of her scale to measure involvement toward advertising in 1990.

4.7.5.5 Levels of Involvement

Two general degrees of involvement are recognised by researchers: 'high' and 'low' involvement. Models regarding these two involvement levels and their relation to purchasing behaviour have been developed by Rothschild (1975), and are presented in Table 4.4.

Table 4.4 A Static View of Involvement Levels

Involvement Level	Cognitive Development[46]	Affective Development[46]	Conative Development[46]
No	No to Low Awareness	No	No
Zero Order	Awareness[47]	Yes	Yes
Party/Brand Loyal	Awareness	Yes	Yes
Higher Order Info Seeker	Awareness and Comprehension[48]	Yes	Yes

Source: Rothschild (1975,p.217)

46"Cognitive Development is the development of awareness and/or comprehension of points salient to the individual in regard to the issue; it is the establishment of a set of beliefs based on knowledge. Knowledge can range from mere awareness to a thorough understanding of the issue or object. Affective Development is the development of an attitude or set of attitudes based on an evaluation of prior beliefs, alternative social objects and/or choices within the issue. Conative development is the development of a willingness to act on the issue which, in turn, develops into actual behaviour" (Rothschild, 1975, p.217).

47" An internal, subjective state of being cognisant or conscious of something." (Reber, 1985, p.76).

48"To understand, with the implication that the understanding is deep and thorough"(Reber, 1985, p.76).

When describing choice process in a high involvement situation, researchers frequently use analogies with the information processing activities of computers to explain the stimulus - organism - response procedure (e.g., S-O-R models; Foxall and Goldsmith, 1994; Arora, 1982). Thus, a highly involved, information - processing consumer is portrayed as:

> "-receiving information from the environment - typically in the form of an advertisement for a new brand of a fast-moving product;
>
> -interpreting this information according to their experience, opinions, personal goods, personal characteristics and social position;
>
> -searching for additional information to clarify the want or need so aroused;
>
> -evaluating the alternative competing brands available to satisfy this want/need;
>
> -developing the beliefs, attitudes and intentions that determine whether a purchase takes place and, if so, which brand is selected;
>
> -acting upon these intra-psychic[49] forces to purchase and use the product/brand;
>
> -reevaluating the attitudes and intentions in the light of the satisfaction engendered by consuming the product; and
>
> -storing the new attitudes and intentions in mind for future reference" (Foxall and Goldsmith, 1992, p.28).

However, "because we [marketers] care about brands, or packaging or information processing, we assume that the average consumer also cares... But, the average consumer who blithely purchases, consumes, and discards the product most likely could not care less" (Kassarjian, 1978, in Mittal, 1989a, p.152).

In cases such as this, that is, of low involvement, consumers:

> " -make far less use of information than the comprehensive models suggests;
>
> -show little sign of pre-purchase decision making based upon the rational processing of information;
>
> -use brand trial in order to obtain information about and to evaluate brands;
>
> -exhibit multi-brand purchasing within a small repertoire of brands that share attributes (or characteristics) common to all members of their product class; and
>
> -are influenced in product and brand choice mainly by situational factors and in-store information sources" (Mittal, 1989a, p.30).

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[49]Psychic is a short synonym to psycho- (Reber, 1985).

Table 4.5. Level of Involvement related to Message Processing and Memory

Type of Involvement	Information Processing Sequence	Expected Consequences for Memory
Low involvement 1	Message presentation Pre-attentive processive	no long-term memory
Low involvement 2	Focal attention (Minimal encoding)	recognition, some cued recall[50 and 51]
High involvement	Encoding elaboration (cognitive responding, personal connections)	free recall, aided by context

Source: Leavitt *et al* (1981, p.17)

Reviewing literature related to low involvement, Leavitt *et al* (1981, p.15) state that "consumer psychologists have disagreed in their theories about what constitutes high involvement, necessarily leaving the important phenomenon of low involvement ambiguous". Then, they propose a three stage information processing model, in which high involvement is associated with the third stage of this model while two types of low involvement represent the first two stages. This approach is in agreement with the S-O-R models described earlier and is presented in Table 4.5.

It seems that in low involvement products, the purchase decision process involves less engagement from the consumer's part. The opposite happens in high involvement products. It has been already seen, and discussed, that often product importance is seen as a prerequisite for a product's level of involvement (Bloch and Richins, 1983). Also, it is suggested that often product price might be an indicator of the level of product involvement, though others recommend avoiding generalisations in such cases (Clarke and Belk, 1979).

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50 The principle of encoding specificity is used to predict that recall will be aided by the cues or categories used in original encoding. To the extent that these cues can be supplied by the audience member unaided 'free' recall should be likely (Leavitt *et al*, 1981).

51 With minimal encoding, situational cues present during original exposure to the message may effectively elicit recall (Leavitt *et al*, 1981).

It is important to mention, however, that Vaughn, in 1980, while developing a model in order to explain how advertisements work, suggested that high and low involvement is a continuum and, also, that over time high involvement can decay to relatively low involvement. Thus, we understand that a product purchase does not always induce high involvement for a person, emphasising the dynamic character of the concept.

An interesting approach in studying the effects that different involvement levels might have in responses to marketing stimuli concerns the way that involvement can be related to brain specialisation[52].

Brain specialisation proposes that "anatomical separation of the cerebral hemispheres of the brain leads to specialised perception of messages. The left side is relatively more capable of handling linear logic, language and analysis - in short, the cognitive (thinking function). The right side is more intuitive, visual and engages in synthesis - the affective (feeling) function " (Vaughn, 1980, p.30).

Research on brain specialisation is particularly important for those interested in advertising response. Researchers interest on the independence and separately specialised function of the two hemispheres of the brain goes back to the 1970's and, as Krugman states (1979, p.16): "to me, a psychologist is first a biologist. I have always looked to the physiological side of attention and learning for clues as to what was really happening".

In 1987, Mittal proposed a framework relating consumer involvement to lateral brain functioning. He identified three categories of involvement (or types) and studied their consequences on brain engagement. He found that "it is the type of involvement, not modality[53], which will influence the relative engagement of the hemispheres" (p.44) and reported that his findings were consistent with the few other empirical studies that were available at that time (Table 4.6, next page) .

52"Consumer involvement and brain specialisation ... have been introduced to explain why consumers are interested in some purchase activities more that others and how consumers perceive different messages during purchase consideration" (Vaughn, 1980, p.29).

53 i.e., print or TV, verbal or pictorial (Mittal, 1987).

Table 4.6 A Framework of Correspondence Between Categories of Involvement and Left/Right Brain Engagement.

Category of Involvement	Condition that engender or correspond to the category of involvement	Aspects of the stimuli that are processed	Extent of mental activity	Nature of mental activity	Relative engagement of left/right brain
High-Cognitive	When a product's performance dimensions are important. When an 'ad' contains a great deal ... of information which is relevant.	Disparate product feature information. Relatively objective information.	High	Brand belief formation and synthesis into a strong 'cold' affect.	Left Brain: Intense. Right Brain: Modest.
... High-Affective	Product's 'image' dimensions are important. Ad depicts an emotional/ image situation.	Symbolic quality and image dimensions of the product. Emotional overtones and imagery in the ad.	High	High imagery: sensory holistic, global encoding and strong 'hot' affect.	Left Brain: Modest. Right Brain: Intense.
Low-Involvement (Low Cognitive and Low Affective)	Neither performance nor image dimensions are much important. Ad depicts neither intensely emotional situation nor gives much feature information.	The most readily accessible one feature or so. Just a vague impression or shallow image that is not much affect-laden.	Low	Shallow, sparse belief formation and surface-level general image; weak affect (cold or hot).	Left Brain: Marginal. Right Brain: Marginal.

Source: Mittal (1987)

4.7.6 Personal Factors

In summary, purchasing behaviour seems to be immediately related to consumers' psychological characteristics. According to models of factors influencing behaviour (see paragraph 4.5.2), buyers are influenced by psychological factors, viz.: motivation, perception, learning, beliefs, attitudes and involvement. These factors have been discussed in detail in the previous paragraphs. According to Engel *et al* (1990) and Kotler (1991), however, there are other underlying factors that influence these psychological factors. These factors can be personal factors and will be discussed in the following paragraphs.

4.7.6.1 Personality

Kotler (1991, p.172) defines personality as "the person's distinguishing psychological characteristics that lead to relatively consistent and enduring responses to his or her environment".

According to Engel *et al* (1990, p.327), personality is "consistent responses to environment stimuli". Theories related to personality have already being presented as they impinge on motivation and include Freud's psycho-analytical approach and other social theories.

The main idea of using personality in consumer behaviour research was based on the view that "aspects of consumers' purchase behaviour might be closely related to their personality traits" [54] (Foxall, 1991, p.64). It is argued that personality can be a useful variable in analysing consumer behaviour provided that: personality types can be classified; and that a strong relationship exists between certain personality types and product or brand choices. Regardless of the difficulties, researchers have tried to segment consumer markets psychographically; that is, by grouping consumers who share common determinative personality traits, related to purchase and consumption, in the same market segment (Foxall and Goldsmith, 1989).

Foxall and Goldsmith (1989) criticise the personality research that bloomed in the 1970's - mainly due to techniques used at that time and coming mostly from clinical psychology (see psychoanalytical theories presented earlier in this chapter). Although, they conclude that careful investigation of consumer choice using appropriate psychometric tests may have much to offer in marketing research and management.

4.7.6.2 Age

People consume different products at different age stages. This holds especially for food, for example, baby food in early years, fat free food when concerned about appearance and/or health and nutrition, etc.

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[54] Traits being an individual's characteristic ways of responding to the social and physical environment (Foxall, 1991).

4.7.6.3 Life-Cycle Stage

Different consumption patterns can be identified for single or married persons, families with children, etc.

4.7.6.4 Economic Circumstances and Occupation

It is not possible to investigate a product purchase process without mentioning factors such as disposable income in relation to prices, etc. Also, consumer behaviour seems to be different in times of recession than it is in times of economic growth; for example, consumer confidence, as manifested by a willingness to spend, grows in good economic times and weakens in a recession. Occupation and education are underlying factors influencing consumer behaviour, often determining a person's social class.

4.7.6.5 Life-Style

Life-style is considered to be "the person's pattern of living in the world, as expressed in the person's activities, interests, and opinions... Life-style attempts to profile a person's way of being and acting in the world" (Kotler, 1991, p.171). Linking consumer purchasing behaviour with life-style attracts a lot of consideration in market research work, as it seems to be an important variable in market segmentation (Lunn, 1986).

4.7.6.6 Social Factors

Consumer behaviour is affected by social groups. In Table 4.3, the need of consumers to be accepted and respected by other human beings has been shown. Furthermore, "group phenomena are of particular interest to the consumer researcher because group behaviour is usually more easily predictable than individual groups" (Foxall, 1991, p.91).

Groups may be more or less formal, for example, family, social class, group of peers, etc. Roles and status within groups also, determine, consumer behaviour and many of those can be performed by the same person, for example, a women can be a housewife, mother, lover, professional, etc.

4.7.7 Cultural Factors

Cultural factors include 'culture', 'subculture' and 'social class'.

Culture refers to *"a set of values, ideas, artifacts, and other meaningful symbols that help individuals communicate, interpret, and evaluate as members of society"* (Engel *et al*, 1990, p.63).

Subculture, for example, consumer roots in ethnic, religious, and regional groups, etc., interact with social class, income, casts, and culture, providing values, symbols and norms of 'acceptable' behaviour.

Social classes, "are relatively homogeneous and enduring divisions in a society, which are hierarchically ordered and whose members share similar values, intersets, and behaviour" (Kotler, 1991).

Cultural factors influence attitudes and behaviour as communication, dress and appearances, food and feeding habits, etc. (Tomlison and Warde, 1993).

4.8 Market Segmentation

4.8.1 Definition and Scope

Market segmentation is *"the process of dividing the total market into several relatively homogeneous groups with similar product or service interests, based upon such factors as demographics or psychological characteristics, geographic locations or perceived product benefits"* (Gunter and Furnham, 1992, p.2).

Research on market segmentation received a lot of attention after the 1940's and, mainly, after the publication of one of Wendell Smith's pioneering articles in 1956[55], giving rise to a voluminous body of literature (Lunn, 1986). Certain market trends, also, permitted and encouraged this evolution. Lunn (1986) and Gunter and Furnham (1992) identify these trends as being: rising real incomes; changes in traditional values; widening range of consumer tastes and wants; and the structure and requirements in many markets have become more and more differentiated. The impact of these trends on consumer demand forced marketers to stop regarding markets as homogeneous sets and to look at them rather as sets of differentiated consumer groups - and target them as such. The growth in number of products in UK supermarkets over the past forty years exemplifies the response

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55 'Product Differentiation and Market Segmentation as Alternative Marketing Strategies' in Journal of Marketing, 1956 (Lunn, 1986).

of manufacturers and retailers to burgeoning demand from various consuming groups - the grocery store of the early 1950's carried close 600 items, the superstore of the mid-90's carries close to 18,000 items (Hughes, 1994).

Regarding food markets, which are of primary interest in this dissertation, Hughes (1994) summarises forces that have led the changes in the European food industry over the last three decades:

1) Population and Demographic Change, for example, age profile of the population, changes in household numbers and size.

2) Incomes and Levels of Living.

3) Social Changes in Family and Work Patterns, and Cultural Attitudes to work, for example, education levels of consumers, meal eating location and behaviour.

4) Increasing Consumer Awareness of Health, Animal Welfare and Environmental Issues.

5) Growing Ethnic Diversity.

6) The Pleasure Principle, for example, interest in foreign cuisine, new food product market development.

7) Technological Advancements in the Food Industry, for example, changing techniques.

8) The Structural Implications of New Technology, for example, changes in retailing, changes in manufacturing and distribution, changes in the farm sector.

Now, a consumer orientation is a matter of necessity for raw material producers, product manufacturers, and retailers. Indeed, the price of misreading consumer requirements is high; yet, 80 percent or more of new food products, for example, can claim to be successful (Hughes, 1994).

Market segmentation helps marketers in developing the 'right' product for each target market (Gunter and Furnham, 1992). Methodologies and techniques used for market segmentation and their relevance to the objectives of this dissertation are presented in the following paragraphs.

4.8.2 Classifications of Market Segmentation

It is argued that segmentation is less a single concept and more an umbrella topic, covering a diversity of issues. Two major distinctions regarding segmentation are identified by Lunn (1986), and are presented, as interpreted by this author, in the following table (Table 4.7).

Table 4.7. Major Distinctions Regarding Segmentation

Two major distinctions regarding segmentation	
a) marketing manager's perspective vs. marketing researcher's perspective	Marketing managers see segmentation as a strategy whereby products are directed at specific target groups of consumers rather than at the total population. Marketing researchers regard segmentation from a methodological standpoint: that is, as a set of techniques, or as a type of survey, geared to the description of fundamental market differences.
b) consumers orientated vs. product orientated segmentation	In consumer-orientated segmentation, emphasis is placed upon ways in which consumers can be grouped in terms of their needs and other basic characteristics. In product-orientated segmentation, emphasis is placed upon ways in which products can be grouped in terms of the benefits they offer.

Source: Lunn, 1986.

In the literature related to market segmentation (e.g., Lunn, 1986; Kotler 1991; Gunter and Furnham, 1992), discussion is mainly concentrated on consumer segmentation. However, Lunn (1986) states that, in recent years, researchers have paid increased attention to product segmentation. He reports the industry researchers' views that, while traditional consumer segmentation criteria have not shown much success in brand discrimination, **"researchers should concentrate instead on deriving product-field-specific criteria by which consumers themselves distinguish between brands and products"**, and that **"... researchers should turn away from grouping consumers and should, instead, confine their efforts to grouping brands and products"** (p.413).

Lunn argues in favour of a more balanced view according to which **"both consumer and product segmentation are valuable, often for different kinds of marketing problem"** (1986, p.414). Thus, he supports consumer segmentation for questions about the kind of consumer who should be appealed to; and product segmentation for identifying gaps for new product

opportunities and market definition, because "consumers do not always perceive the market in the same way as manufacturers" (Lunn, p. 414). Lidington (1994, p.2), supports this and states that: "our view, in Quadrangle Qualitative Management Consultants, is that people construct their own reality; that they live and buy according to that defined reality; and that part of our job is to emphatise (a philosophy or research which goes back to Wilhelm Dilthey in the nineteenth century, Max Weber, the phenomenologists and, most recently, Lincoln and Guba), or understand life from where they stand".

The distinctions supported by Lunn are helpful in organising and understanding market segmentation techniques and, to this author's view, there are interactions and linkages between the perspectives and orientations discussed above. That is, there does not seem to be and, hopefully, there is not, a gulf between how marketing managers and researchers classify markets. The shared aim is to develop and use market segmentation techniques that can be easily and cost effectively applied for both new product development and marketing strategy planning and implementation. Furthermore, regarding consumer versus product market segmentation, it is argued that while the former is based on consumer needs and characteristics, the latter is based on benefits offered by the products. These benefits, however, should be the ones perceived by consumers as emanating and, therefore, benefits cannot be seen as unrelated to the consumer.

4.8.3 Segmenting Markets - An Overview

Market segmentation can provide guidelines for marketing actions, in cases such as new product development, development of promotions strategies, etc. The information needed for market segmentation and its nature will depend on the market under examination and the bases for segmentation should agree with certain criteria, named by Lunn (1986, p. 392):

"a) be feasible to measure under normal market research conditions;

b) be unambiguous and meaningful to both researchers and marketing people;

c) discriminate between consumers themselves;

d) provide adequate discrimination in the market, for instance, in respect of:

i) product field usage or purchase;

ii) weight of usage or purchase;

iii) brand usage;

e) increase the understanding of the market, particularly by indicating consumer needs;

f) be fully exploitable in practice - i.e. marketing people should be able to take effective action in the light of the discrimination achieved. That is, the variables should, if possible, provide links between different data sources, e.g., media and purchasing panel data" .

It would seem sensible if the information gathered is to be used in market segmentation as part of the investigation of purchase decision process that it should be related to the factors influencing the purchase decision process, such as:

1) actual purchase related, for example, per se physical - geographical, quantitative;

2) buyer related, for example, personal, psychological, social, cultural, benefits related (Lunn, 1986; Gunter and Furnham, 1992).

To reiterate what has already been discussed in this chapter, market segmentation can be achieved using:

-Purchasing behaviour and, thus, divide the market into heavy, medium, light buyers (Lunn, 1986).

-Product attributes. These are not perceived in a uniform way by consumers (Lilien, 1992). Thus, a market for a product can be segmented by the attributes that are of primary interest to a target group of buyers (e.g., cheap, sweet).

-Buyer or Consumer characteristics, for example, demographics, life-style, personality, etc. (Gunter and Furnham , 1992).

-Attitudes. They can be useful in segmenting markets and choosing target segments (Engel *et al*, 1990).

-Involvement as it provides product and consumer involvement profiles that help in understanding the dynamic relationship of consumers to products and, also, can help in describing targets and market segmentation (Kapferer and Laurent, 1985).

4.10 Epilogue

In this chapter, a review of literature related to consumer behaviour has been presented and discussed. Some of the concepts were discussed in detail, especially those that focused on

the examination of consumer purchasing behaviour, while some others were given more cursory attention.

The aim of this literature review has been to provide some insight into concepts and methodologies applied in purchasing behaviour examination and to provide the researcher with guidance in choosing the theoretical tools that seem appropriate for this dissertation. The objective is not to undertake a detailed examination of purchasing behaviour for cheese in Greece, rather it is to complete a theoretically rigorous and practically applied investigation of factors influencing purchasing behaviour for this product category in the specific market. As a result of this review, the concepts and methodologies that seem appropriate for the market and problem under investigation have been selected and will be discussed in the next chapter.

CHAPTER 5. STUDYING CHEESE PURCHASING BEHAVIOUR IN GREECE - AN ANALYTICAL FRAMEWORK

5.1 Introduction

The objective of this dissertation is to investigate purchasing behaviour for cheese products in Greece. Understanding purchasing behaviour and using it effectively for market segmentation can be important for the profitability of those involved in the production and trade of cheese products in Greece. Subdividing a mass market into smaller segments, containing relatively homogeneous groups of consumers, can lead to a more efficient usage of corporate resources (Foxall and Goldsmith, 1994).

In Chapter 4, methodologies adopted by market researchers for investigating purchasing behaviour and market segmentation have been discussed. The literature review revealed that these methodologies usually relate to: purchasing habits (e.g., light, heavy, medium buyers), product attributes (e.g., observable or imaginary), buyer characteristics (e.g., demographics, life-style), attitudes (e.g., tastes and preferences) and involvement (e.g., involvement proper, involvement facets). To choose which methodological approach to follow depends, first, on the products and market under investigation and, second, on how one wishes to use the results of a market segmentation.

Considering the contemporary marketing situation for **cheese products** in Greece, some pertinent elements (see Chapter 2 for more detail) include:

- the market comprises both branded and non-branded products, with the latter accounting for more than three quarters of the quantity consumed;
- consumption patterns are changing, particularly with regard to:
  - types of products consumed: a move from Greek traditional cheeses, towards other types of cheese (e.g., yellow cheese made from cows' milk, spreads, etc.);
  - product characteristics: from bulk, unbranded products receiving little or no promotional support towards smaller, unit size products which are relatively heavily promoted;

- consumer characteristics: demographic profile, income, working and eating habits;

- the cheese manufacturing sector in Greece is responding to changing consumer demand and is investing in the production of branded, traditional Greek cheeses.

Effective product management requires detailed knowledge about the market to guide decisions on product development, packaging, pricing, promotion, choice of channels of distribution, and no more so than when the market is in flux, that is, when cheese buyers are changing their preferences from bulk, unbranded towards branded, well promoted products. A detailed knowledge and understanding of factors that are important to buyers when purchasing specific types of cheese is of crucial importance for managers when developing and implementing marketing strategies and plans.

Past research on the market for cheese products in Greece, has been mainly descriptive and focused on purchasing and eating habits and on attitudes (Patsis *et al*, 1992; ICAP, 1991). However, market analyses based on buyer attitudes, product attributes and buyer characteristics have failed to explain key factors that motivate buyers of cheese products when making certain purchase decisions. It is argued in this dissertation that the application of involvement theory, not only captures the dynamic elements of the purchaser-product relationship but, also, reveals the underlying forces that shape this relationship and, what is more, does so in a manner that is visible by marketing management. As it has been shown in the literature review (Chapter 4), involvement theory, can help in:

- measuring purchasing involvement proper (i.e., interest towards the purchase);
- identifying the underlying factors (i.e., involvement facets) - related to cheese buyer goals and the relative importance of these factors that motivate buyers towards the purchase of certain cheese types;
- constructing involvement profiles of products and buyers, that is, product and market segmentation;

- choosing the most appropriate marketing mix (i.e., 4 P's) for each segment (i.e., product development and positioning);
- relating involvement profiles to purchasing behaviour and, then, influencing the latter by developing and implementing communication strategies directed towards specific buyer segments using involvement profiles as a principal basis for segmentation.

Consequently, this researcher views that involvement theory provides a theoretically rigorous basis for exploring aspects of the purchase decision process and, concomitantly, is a theory that can be readily applied to practical marketing situations, in this case, cheese purchasing behaviour in Greece. The analytical framework used for hypotheses formation and testing in this dissertation is based on involvement theory.

5.2 Involvement Theory in the Context of Cheese Purchasing Behaviour in Greece

In Chapter 4, the review of the Involvement literature revealed the broad character of the theory and its application and documented numerous efforts by researchers to clarify the concept, to measure consumer involvement, and to apply the theory to provide insights into consumer and/or buyer purchasing. In this section, aspects of involvement will be explained which are of practical relevance to the scope of this dissertation.

As the research focuses on purchasing behaviour, it is appropriate to concentrate attention on purchasing involvement. Involvement researchers (e.g., Mittal and Lee, 1989; Mittal, 1989a and 1982; Zaichkowsky, 1985a; Laurent and Kapferer, 1985), usually, assume that consumers and purchasers are identical persons; they differentiate, however, purchase for personal use and purchase for gift. Most importantly, in developing a scale for measuring purchasing involvement, Mittal (1989a) clearly separated the function of purchasing from that of consuming. In the case of food, the person responsible for the household's food purchases receives messages before the purchase, proceeds to the action of purchase, and receives messages after consumption has taken place. Often, for example, in case of a food stuff

such as cheese, the buyer is also the user (when preparing meals for others) and consumer.

As identified earlier, most cheese products consumed in Greece are unbranded and undifferentiated. Therefore, the terms purchase involvement and brand decision involvement cannot be used interchangeably, as have been used by Mittal and Lee (1989). In this dissertation, purchasing involvement will comprise buyer's involvement with the purchase of specific categories of cheese (e.g., Feta cheese, Hard cheese, etc.- see chapter 6 for further clarification) and not with brands. So, the specific definition is:

> Purchasing involvement is the interest the purchaser finds in making the product selection. This should be distinguished clearly from product involvement which, in this case, would be defined as the interest in a product class.

From the literature review, it has been identified that involvement is a motivational state. For marketing managers, a critical question is how strong is this state? (i.e., purchasing involvement proper). Kapferer and Laurent (1985) view that, because involvement is a hypothetical construct, it cannot be measured directly. For this reason, they focused on measuring involvement facets instead (i.e., involvement antecedents and sources). Nevertheless, Mittal and Lee (1989) and Mittal (1989a) clearly distinguished involvement proper from its antecedents and effects and argued, persuasively, that one could, and showed that they had, measured it. In this dissertation, the Mittal and Lee case is accepted and purchasing involvement proper (*per se*) will be measured.

This researcher also addresses the investigation of the underlying forces that motivate buyers towards purchase - that is, the involvement facets (i.e., sources and antecedents) that can help researchers to form Product Purchasing Involvement Profiles and Buyer Involvement Profiles. Kapferer and Laurent (1985) conceptualised and measured the following involvement antecedents and sources (in their parlance involvement facets): product perceived importance; perceived importance of negative

consequences of a mispurchase; subjective probability of a mispurchase; hedonic value of the product class; and perceived sign value of the product. These facets are related to goals that buyers want to satisfy through purchase, that is, utilitarian, self-expression, pleasure (Mittal and Lee, 1989).

It is considered necessary that further clarifications should be provided, at this stage of this dissertation, regarding the appropriateness of using the term involvement facets for the purposes of this research and, also, its relation to the issue of involvement dimensionality. It was shown (Mittal, 1989a,b; Mittal and Lee, 1989) that purchasing involvement is unidimensional and can be measured as such, and this view has been adopted for this dissertation.

Laurent and Kapferer (1985) used the term involvement facets as equivalent to the term involvement antecedents and sources. Mittal in a critical analysis of Laurent and Kapferer's measurement instrument, states that "Laurent and Kapferer's selection strategy [of antecedents, or facets, of involvement] could not have addressed the question of dimensionality in involvement, much less separate involvement proper from other seemingly related variables"(1989c, p.697). Furthermore, he suggests that the importance facet identified by Laurent and Kapferer represents involvement proper which, as he says, "on conceptual grounds, it should be kept distinct" (1989c, p.700).

This researcher's view, that importance is not involvement, has been discussed in an earlier section (see 4.7.5.2.1). Furthermore, the term involvement facets will be used in this dissertation as equivalent to involvement antecedents and sources and in no case will indicate dimensions of involvement. However, as Mittal (1989a) identified and measured purchasing involvement, to this researcher's view, Product Purchasing Involvement Profiles and Buyer Involvement Profiles can be built using purchasing involvement and purchasing involvement facets. This will be undertaken in other chapters of this dissertation (Chapter 9 and 10).

Finally, by applying involvement theory in the context of the Greek market for cheese, the intent is: to explore the validity of the theory for the market under consideration; and to investigate its application for product and buyer segmentation.

5.3 Research Hypotheses

Taking into consideration, the research goal that is to investigate purchasing behaviour for cheese in Greece, the author's intention to explore opportunities for market segmentation, and the theoretical concepts related to involvement theory presented and discussed in the previous chapter, the research hypotheses are:

Hypothesis 1. Buyer involvement[56] in cheese purchasing can be identified and measured.

Hypothesis 2. Cheese purchasing involvement antecedents fall into certain distinct categories, viz.:

a) cheese importance for the household;

b) buyer self-expression;

c) utility achieved through purchase.

Hypothesis 3. Cheese buyers can be classified into specific groups according to their purchasing involvement profiles.

Taking into consideration the peculiarities of the market under examination, that are further explained in Chapter 6 (e.g., branded and non-branded products are marketed, the buyer is not always the user), this researcher decided not to investigate the validity of antecedents and sources of purchasing involvement such as risk and pleasure.

5.4 The Need for a Product Specific and a Market Specific Involvement Measurement Instrument

To test the above hypotheses, it is necessary to measure cheese purchasing involvement and purchasing involvement antecedents in the Greek market. There has

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[56]The terms buyer involvement and purchasing (or purchase) involvement will be used interchangeably in this dissertation.

been no previous experience in applying involvement theory to cheese product purchases in Greece, therefore, involvement measurement tools, specific to the product and the market, are not extant.

Involvement and involvement facets measuring scales developed for a wide range of products, including food, and markets, have been presented in the previous chapter. In most cases, the scales were measuring multi-product involvement and were not market specific. In many cases, researchers found the development and testing of scales for one market and one product only too limiting (Zaichkowsky 1985a,b); Bloch (1981) argued in favour of product class specific measurements, in order, to reduce ambiguity in the scale items and, to capture, more effectively, how the consumer really feels about a specific product. Modifying scales to meet the particular requirements of specific markets is common practice (Bearden *et al*, 1993, Dimanche *et al*, 1991). Indeed, Mittal suggested that his purchase involvement scale (see 4.7.5.5.3) should be appropriately modified if it were to be used for cheese products in the Greek market (personal communication, February 1994). As a result, it seems appropriate to develop and test a product class specific and market specific scale for measuring purchase involvement and purchase involvement facets. The main elements that need to be taken into consideration when developing a measurement scale are discussed in the next section.

5.5 Central Issues Related to the Development of a Measurement Instrument

The development of improved measures of marketing constructs is considered critical in the evolution of the fundamental body of marketing knowledge (Churchill, 1979). Nunnally (1967) summarises the major advantages of standardised measures as follows:

> "Objectivity. The major advantage of measurement is that it takes the guesswork out of scientific observation... Theories... are testable to the extent to which there are unambiguous procedures for documenting empirical events. Standardised measures provide such procedures.
>
> Quantification. Numerical results have two advantages. First, numerical indices make it possible to report results in finer detail than would be the case with personal judgements.

> Second, ... quantification... permits the use of powerful methods of mathematical analysis [e.g., factor analysis].
>
> Communication. Science is a highly public enterprise in which efficient communication among scientists is essential. Each scientist builds on what has been learned in the past, and, day by day, he must compare his findings with those of other scientists working on the same types of problems. Communication is greatly facilitated when standardised measures are available.
>
> Economy. Although it frequently requires a great deal of work to develop standardised measures, once developed they frequently are much more economical of time and money than are subjective evaluations" (Nunally, 1967, p. 6).

5.5.1 Conceptual Relevance

When developing measurement instruments, first, it is important to define precisely the constructs that are to be measured. Not only does this help in the development of the measurement instrument but, also, it facilitates comparisons with earlier research work related to the subject. In this dissertation, the focus is on measuring purchase involvement (proper) and purchase involvement facets. Both terms have been clearly defined in Section 5.2.

In Chapter 4, the issue of dimensionality in involvement theory was discussed extensively and Mittal's (1989c) view on the topic was adopted. Mittal makes a distinction between involvement proper and involvement facets, regarding the former as unitary and unidimensional. It can be argued that Cohen's (1983) distinction between involvement antecedents and sources, involvement proper and involvement effects, also, supports the unidimensional character of involvement. Instruments are needed, therefore, that measure involvement proper and involvement antecedents separately. To measure purchasing involvement proper, a scale similar to the purchase involvement scale developed by Mittal (1989a) - see Appendix 6, can be used. To measure purchasing involvement facets, it is necessary to capture antecedents - that can be buyer's goals, such as expressive and utilitarian (Mittal, 1982), or utilitarian, pleasure, hedonic, and risk (Laurent and Kapferer, 1985; Mittal and Lee, 1989). To reiterate, it seems that involvement antecedents and sources are not necessarily the same for all markets and products (Dimanche *et al*, 1991). Therefore the selection of

antecedents the researcher wishes to capture requires a comprehensive knowledge and understanding of the products and market under consideration.

Another conceptual issue related to involvement measurement derives from the clear distinction between involvement and attitudes, as pointed out by Mittal (1989b), Zaichkowsky (1985a), and discussed in sections 4.7.5.3.4 and 4.7.5.5.3 of this dissertation. Due to this distinction, attitudinal paired statements such as: good-bad, juicy-dry, etc., must be excluded from involvement construct measurement scales.

5.5.2 Form

Most involvement measurements reviewed in the previous chapter are Likert-type scales and, usually, comprise 5, 6, or 7 point items of the strongly disagree/strongly agree form (see Mittal and Lee, 1989; Laurent and Kapferer, 1985; Lastovicka and Gardner, 1979; Traylor 1981; Slama and Tashchian, 1985; Bloch, 1981). In the reported literature, scale length has varied between 33-items and 3 items per construct measured (Bearden *et al*, 1993).

Making an optimal decision on the type and length of a scale is no easy matter. Multi-item scales are believed to serve marketers better than single-item scales (Zaichkowsky, 1985a,b; Laurent and Kapferer, 1985; Bearden, 1993). This is because, as psychometric theory indicates, often, a single question cannot capture all the dimensions of a complex, albeit singular, concept and, particularly, in cases that concern human behaviour, intelligence, etc. Furthermore, measurement error tends to decrease as the number of items increases (Nunnally, 1967). Laurent and Kapferer (1985) consider that each scale should have, for reliability reasons[57], no less than three items per construct and, for commercial applicability, no more than five. Reviewing scales used by involvement researchers (Mittal and Lee, 1989; Dimanche *et al*, 1991), Likert scales with three items per construct are commonly used. The sensitivity of the scale is affected by the number of points on the scale. Those with 7 or 10 points are regarded as being more sensitive as they can capture very fine differences

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[57] see following section.

between respondents' positions. In this researcher's view, the choice of the number of points depends on the questions asked and the product, or issue, concerned. When asking questions related to cheese purchasing habits, perhaps, it is rather extravagant to try and capture fine differences that may not exist. In deciding which are the most appropriate number of points for a measurement instrument, it is necessary to have comprehensive information on the market under consideration (see Chapter 6).

For discussion purposes, if a 5-point Likert scale was chosen for involvement measurement, it would be as follows:

Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
Construct a					
Item a1					
Item a2					
Construct b					
Item b1					
Item b2 etc.					

This scale is ordinal and gives non-metric (qualitative) data[58]. Numbers used in ordinal scales (e.g., 1, 2, 3, 4, 5) indicate only relative positions. There is no measure of how much the respondent agrees or disagrees with a statement in absolute terms (Norusis, 1992). Most of the scales used in the behavioural sciences fall into this category.

5.5.3 Validity and Reliability

When developing marketing construct measurements, researchers emphasise the need for measurements to be valid and reliable. According to Churchill (1979, p.65), "a measure is valid when the differences in observed scores reflect true differences on the characteristic one is attempting to measure and nothing else". To measure purchasing involvement proper and purchasing involvement facets, for instance, valid measurements that clearly distinguish between the two concepts and do not overlap are

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58 Data can be: non-metric, that is, attributes, characteristics or categorical properties that can be used to identify or describe a subject. These are measured with nominal scales (e.g., single - married) or ordinal scales (i.e., agree, neutral, disagree); or, metric. These reflect relative quantity or distance, that is, subjects may be identified as different in amount or degree. These are measured with interval (e.g., temperature scale) or ratio (e.g. bathroom scale) scales (Hair *et al*, 1992; Norusis, 1992).

needed. Furthermore, a reliable test is free of error and therefore yields stable results (Peterson, 1994; Norusis, 1993); that is, if the conditions of measuring change (e.g., if the same construct is measured in different times of the year, in different places, etc.), the measurement should provide the same results. Hair *et al* (1992, p. 431) state that "validity does not guarantee reliability and vice versa... A measure may be accurate (valid) but not consistent (reliable). Also, it may be quite consistent, but not be accurate". Churchill (1979) suggested that a valid measure is also reliable. Indeed for him (1979, p.65), when a construct X can be measured and its real value is X_T, while the observed value is X_O:

> "$X_O = X_T + X_S + X_R$
>
> where
>
> X_S= systematic sources of error such as stable characteristics of the object which affect its score, and
>
> X_R= random sources of error such as transient[59] personal factors which affect the object's score".

Thus, when a measure is valid, that is, when $X_O = X_T$, then it is also reliable because, then, $X_S+X_R = 0$.

However, when a measure is reliable , that is, when $X_R = 0$, it is not necessarily valid because $X_O = X_T + X_S$.

In suggesting that a reliable measure may be not be valid, Hair *et al* (1990), indicate the danger of measuring something different from that which was intended (i.e., the danger of a conceptual fault). Indeed, as Bloch (1981, p. 63) points out "internal consistency reliability, assesses the measurement error which is attributable to scale content... does not estimate measurement error or unreliability caused by factors which are external to the scale, such as differences in administration situations".

It seems that central to Churchill's approach is the assumption that to have a valid measure means that the researcher must have avoided both systematic (e.g., conceptual) and random sources of error - a convenient assumption that bears substantial testing!

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[59] e.g., respondent's mood, fatigue, etc. (Churchill, 1979).

A fundamental problem is that researchers never know the 'true' value of the construct they measure. For this reason, they need tests that can assess both measurement validity and reliability. Validity and reliability measures are briefly discussed in the following two sections. However, a more profound presentation of the measures that will be adopted for the needs of this research is included in Chapter 8.

5.5.3.1 Assessing Measurement Validity

One way to assess measurement validity is to compare it with other measurements of the same or other constructs. Doing so, trait, discriminant and convergent validity of the measure can be tested.

Regarding the discriminant validity of a scale, as Laurent and Kapferer (1985, p.44) state, it "represents the distinctiveness of each scale *vis-à-vis* others". High correlations between two scales may indicate that the scales under consideration measure the same rather than different constructs. On the contrary, low correlations indicate high discriminant validity, that is, the new instrument is measuring something different than the instrument with which it is being compared. A clear definition of the construct being measured is necessary in order to avoid low discriminant validity.

Basing the development of a scale on clear definitions helps, also, in achieving trait validity. According to Laurent and Kapferer (1985), a scale has trait validity when it measures a single dimension; this has particular pertinence for this dissertation as requirement is to develop measurements for purchasing involvement proper (unidimensional) and purchasing involvement facets (multi-dimensional). The same researchers use the results of factor analysis to test trait and discriminant validity of a scale they developed. As they explain "to have trait validity, a scale should load on one and only one factor. To have discriminant validity, a scale should not load on the same factor as another scale" (1985, p.44).

Convergent validity concerns the relationship of the measure with other measures supposed to capture and measure the same construct. High correlations, indicating

high convergent validity, are required for a new measurement - to reassure the researcher that the measurement 'traps' the same construct.

Churchill (1979) proposes two methods for assessing convergent and discriminant validity: **Multi-trait - multi-method matrix**. This is a matrix of correlations between different traits when each of the traits is measured by different methods (used by Slama and Tashchian, 1985); and **criterion validity**. One way to show that the scale measures the construct that the researcher is interested in and not something different is by examining the relationship of the scale score with another variable that, theoretically, has a (positive or negative) relationship with the construct under consideration (used by Bloch, 1981; Laurent and Kapferer, 1985; Zaichkowsky, 1985a).

These tests for discriminant and convergent validity, however, require that measurements for the same but, also, for different constructs are available for the product and market under consideration. Concerning the Greek market for cheese, no previous efforts regarding involvement scale testing have been reported; therefore, it is difficult to test convergent validity for the scale developed herein. Thus, it is particularly important to provide a clear definition and conceptualisation of the constructs under investigation.

A review of involvement literature indicates that **Factor Analysis** is a widely used tool for testing discriminant and trait validity. Indeed it has been frequently used to confirm that involvement related constructs, such as purchasing involvement, product involvement and involvement facets, initially conceptualised by researchers are correct (Lastovicka and Gardner, 1979; Laurent and Kapferer, 1985; Mittal, 1989a; Zaichkowsky, 1985a,b; Dimanche *et al*, 1991). Factor analysis seems appropriate for use in the case of this dissertation, to test discriminant and trait validity for the newly developed measurement scales. The way it will be applied in this dissertation is discussed in Chapter 8.

5.5.3.2 Assessing Measurement Reliability

Various tests for assessing scale reliability, found in the relevant literature (Norusis, 1993; Churchill, 1979), are discussed in this section.

Split-half models can be used to test scale reliability. In these models, the scale is split in two parts and the correlation between the two parts is examined. The major disadvantage of this method is that the effectiveness of the test depends on the way that the scale has been split. As Churchill (1979, p. 69) indicates "with, say, 10 items,.., there are 126 possible splits. Because each of these possible divisions will likely produce a different coefficient, what is the split-half reliability?" and he suggests that "coefficient alpha absolutely should be the first measure one calculates to assess the quality of the instrument"(ibid., p.68).

Test-retest reliability is also used to confirm a measure's reliability. In this case, data are collected using the same sample of respondents and the same scale (Bloch, 1981; Zaichkowsky, 1985a; Mittal, 1989a). Churchill (1979), however, reports that the main problem, in this case, comes from the 'sort memories' of respondents, that is, they will tend to reply in the same way as they did the first time.

However, and despite some limitations related mainly to what consists acceptable or sufficient reliability, **Cronbach's coefficient alpha (α)** remains the most widely used measure of scale reliability (Peterson, 1994). Indeed, coefficient alpha is the most frequently used reliability test by involvement researchers when they examine the internal consistency of an involvement scale (Laurent and Kapferer, 1985; Mittal 1989a; Dimanche *et al*, 1991; Bloch, 1981; Slama and Tashchian, 1985). This measure will be used to test the reliability of purchasing involvement and purchasing involvement facets measurement scales that will be developed for the needs of this dissertation. Cronbach's α is explained in Chapter 8.

5.6 An Analytical Framework for the Development of Marketing Construct Measuring Scales

Churchill (1979) expressed disappointment in the way that marketing construct measurements were developed. He said this was mostly due to the fact that, in the 1970s, psychometric theory had little coherence. Also, he noticed that, in most cases, researchers were following more of a GIGO[60] procedure than utilising a systematic framework. Thus, he developed a general framework for measurement instrument development.

Table 5.1 Suggested Procedure for Developing Better Measures

Steps	Recommended Coefficients or Techniques
1. Specify domain of construct	Literature search
2. Generate sample of items	Literature search Experience survey
3. Collect data	Insight stimulating examples Critical incidents Focus groups
4. Purify measure	Coefficient alpha Factor analysis (Repeat 1 and/or 2 if necessary)
5. Collect data	
6. Assess reliability	Coefficient alpha Split-half reliability (Repeat 2 if necessary)
7. Assess validity	Multi-trait - multi-method analysis Criterion validity (Repeat 1 if necessary)
8. Develop norms	Average and other statistics summarising distribution of scores

Source: Churchill, 1979.

As he comments, researchers may adopt this framework according to their specific research needs and requirements but, in its general form, it can be used as a guideline for measurement development. The framework is presented in Table 5.1 and includes such steps as: specification of construct to be measured; generation of sample of items;

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[60]Garbage in Garbage Out.

data collection; purification of measurement; assessment of reliability and validity; and development of norms. The recommended techniques and coefficients to be used include: literature research, field research, coefficient alpha, factor analysis, split-half reliability; mulit-trait - multi-method analysis; criterion validity; and summaries of distribution of scores.

A literature review reveals that influential researchers, such as Laurent and Kapferer (1985), Mittal (1989$_{a,b}$), and Zaichkowsky (1985$_{a,b}$;1986), support Churchill's approach and, in general, the conclusion can be drawn that the Churchillian procedure suggested seems to lead to valid and reliable measures. Its applicability, however, will be discussed in the following section.

5.7 An Analytical Framework for Investigating Purchasing Behaviour in the Greek Market for Cheese

In the previous paragraphs, methodologies related to the development of marketing constructs has been discussed. The exact analytical framework followed by researchers, however, depends on the conditions under which research takes place. These conditions may limit the researcher's ability to follow Churchill's (1979) framework for developing measurement instruments. More particularly, due to convenience and/or resource scarcity involvement researchers, often, have used student samples when developing some of their scale tests (e.g., Bloch, 1981; Lastovicka and Gardner, 1979; Zaichkowsky, 1985a; Mittal, 1989a), or shortened the procedure when using modification of scales developed by other researchers (Dimanche *et al*, 1991).

The procedure for involvement constructs measurement scales developments can be facilitated, if not shortened, because the concept domain has been considerably clarified by earlier research work (e.g., recent involvement definitions are much less 'impenetrable' than earlier ones), and pools of items, relevant to the constructs under consideration, are available from earlier research. Furthermore, in the case of purchasing involvement and purchasing involvement facets, the pioneering work of researchers such as Mittal, Laurent, Kapferer, Zaichkowsky, Cohen and others have

resulted in archetypes of measurement scales that provide a considerable base for the development of new instruments.

Some difficulties can arise when constructing product class and market specific measurements. For instance, if considering the development of measures for purchasing involvement and purchasing involvement facets for the cheese market in Greece, problems may arise because no similar instrument has been developed for the market under consideration. Thus, nothing of its kind can be used either as a basis for the new instrument's development or for assessing the new instrument's validity; additionally, limited financial resources may not permit extensive collection of primary data (a problem in this present research study).

5.7.1 Sources of Information

Information that market researchers can use in investigating purchasing behaviour, usually, falls into two distinct categories:

a) secondary data, and

b) primary data (Lesser *et al*, 1986).

Secondary data are usually published data. The main sources of secondary data are, generally, government statistics and publications, including household surveys, annual trade statistics, etc., plus a plethora of information on consumer demographics (e.g., "Social Trends", published by C.S.O.[61] in the UK). An advantage of government statistics is that they provide considerable information for a series of years, so changes and trends can be identified and, further, they are relatively inexpensive to purchase. Secondary data about consumption can also be found in trade publications, or from private market research firms that collect more detailed data about specific product categories and brands, and provide detailed cross-tabulations to gain consumer profiles for the various items. The latter are usually proprietary.

Secondary data can help substantially in the first stages of market research, that is, desk research, by providing general information about the market under examination.

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[61] Central Statistical Office.

For example, information related to cheese trade and consumption habits may give useful insights into, most popular categories of cheese, consumer attitudes etc. In Greece, such secondary information can be found either in government statistics (National Statistical Service), or in market research reports concerning dairy product consumption (IOVE, 1990; ICAP, 1991; Patsis, 1988, 1991 and 1993)[62]. Secondary data drawn from government statistical reports, however, are often at a crude or highly aggregated level, and the researcher has no control over sample specification and means of data collection.

For this present research, data is required to test hypotheses related to purchasing involvement; specifically, the tasks at hand are to measure purchasing involvement and purchasing involvement facets, having developed a custom-designed construct, product and market specific scale. Therefore, the core data required to test the hypotheses must be collected at the purchaser's level, and must necessarily be primary data. Indeed, "most [market research] experts lay emphasis on the use of personal contact as a data source and they are right to do so" (Newson-Smith, 1986 , p. 26). Information is needed at this level in order, following Churchill's (1979) framework, to create a pool of items related to purchase involvement and facets, to construct scales, to test them, refine them and, then, to test them again.

Information gathering at the purchaser level can be undertaken in two major ways, each with different albeit complementary functions, viz. qualitative and quantitative research.

Qualitative research serves as a first step in consumer market research. It helps to confirm the issues and variables that will be measured in the quantitative research component that usually follows. This type of research has been often used by involvement researchers for generating pools of items - to be used in measurement scale building (Laurent and Kapferer, 1985; Mittal, 1989a).

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[62]Such sources provided information analysed and presented in Chapters 2 and 3 of this dissertation.

Quantitative research, usually, involves a relatively large number of respondents chosen carefully as members of a sample whose characteristics represent the larger population. Quantitative research is of central importance in measurement instrument development and testing, as quantification, using powerful methods of mathematical analyses, can provide the researcher with a means of exploring the variables under investigation (see section 5.5).

5.8 Epilogue

In this chapter, involvement concepts such as purchasing involvement and purchasing involvement facets have been defined and discussed in the context of the market for cheese in Greece. Also, an analytical framework was constructed in order to identify and measure these concepts. According to this framework, scales identifying and measuring involvement related concepts need to be constructed. Qualitative and quantitative surveys need to be conducted in order to provide the necessary data for developing the measurement scales. These two major tools of market research are presented, discussed, and used in Chapters 6 and 7. The reliability and validity of the scales will be tested using factor analysis and Cronbach's coefficient alpha in Chapter 8.

CHAPTER 6: QUALITATIVE SURVEY

6.1 Introduction

To meet the objective of this research, that is, to investigate purchasing behaviour for cheese in Greece, an analytical framework was constructed and presented in Chapter 5. According to this framework, the applicability of involvement theory would be examined for the specific market and product class under consideration. To do so, scales measuring purchasing involvement and purchasing involvement facets need to be developed.

A qualitative survey is a necessary step in measurement scale development, as it can provide information on the variables the researcher is attempting to measure (Churchill, 1979; Laurent and Kapferer, 1985). In this chapter, the theoretical background related to qualitative research, and the empirical results of this research, will be discussed.

6.2 Qualitative Research - Theoretical Background

Qualitative research involves studies that are exploratory or diagnostic. Participants under investigation are not sampled on a probabilistic basis. They are selected to represent different categories of people or certain segments (e.g., cheese buyers). Research methods developed for this type of research allow participants to express their underlying thoughts and feelings about products. Information obtained is qualitative rather than quantitative. As a result, the outcome of qualitative research is more impressionistic than definitive (Sampson, 1986).

Qualitative research has been used, typically, as a precursor to quantitative research, to ensure that the latter embodies consumer concepts and language and, also, as a means of generating hypotheses; it is used, also, to illuminate the results of large scale surveys. Qualitative research techniques, allowing informal researcher-participant dialogue and within discussion group interactive conversations, permit to the

researcher a certain degree of flexibility and realistic description of purchasing behaviour (Countiss and Tilley, 1995).

An overview of qualitative techniques is presented in Table 6.1. Which one should be used in each research case depends mainly on the research problem and financial constraints. The most commonly used, however, are 'focus groups' and 'individual interviews' (Sampson, 1986).

Table 6.1 Objectives and Main Techniques of Qualitative Research.

Objectives	Techniques
a) to obtain information when nothing is known about the problem area or product field; b) concept identification and exploration; c) to identify relevant or "salient" behaviour patterns, beliefs, attitudes, motivations etc.; d) to establish priorities amongst categories of behaviour and psychological variables like beliefs, opinions and attitudes; e) in a preliminary screening process, in order to reduce the number of possible contenders (e.g., other brands in the market, etc.) ; f) when direct questioning should be avoided (e.g., embarrassing or personal questions), then, projective questioning techniques (coming from psychology) can be used.	1) the individual 'depth' or intensive interview. It requires skill from the interviewer, but, it can give in-depth information. A disadvantage is the absence of other consumers which would allow opportunities for argument and discussion between consumers; 2) the group interview or group discussion, usually, comprising 7 or 8 group members. Members are subjectively selected. They may represent different categories of people (e.g. age, socio-economic class etc.) from a target market. No direct questions are imposed, interactive conversation is encouraged. The results are not used to give quantitative conclusions and are not definitive; 3) the extended group (the discussion lasts 6-7 hours); 4) the elicitation interview ("top of the mind" or salient product attributes are identified which are relevant to purchase behaviour; these are then used for subsequent quantitative research); 5) the decision protocol interview (in-store consumer observation and, then, interview); 6) the repertory or "Kelly" grid technique (semantic differential scales are used and the results are afterwards analysed by using multivariate techniques).

Source: Sampson, 1986.

6.3 Qualitative Research - Design

In relation to the product class and market under investigation, qualitative research has often been used by involvement researchers during the procedure of building measurement scales (Laurent and Kapferer, 1985; Mittal, 1989a).

More specifically, 'group interviews' have often been used by involvement researchers for identifying involvement antecedents and sources, and for generating pools of items to be used in scale building. Also, researchers have interviewed market participants other than purchasers (e.g., shop-keepers) to extend their knowledge of what and why people buy (e.g., Laurent and Kapferer, 1985; Zaichkowsky, 1985a). Given the specific research needs of this study and the practices of other researchers, it seems that the following categories of participants would be appropriate for providing the information necessary during a qualitative survey:

a) cheese purchasers;

b) professionals involved in the cheese trade - retailers, processors, traders;

c) professionals involved in market research;

d) other researchers engaged in consumer and, especially, involvement research.

The scope of a qualitative survey involving market researchers, cheese retailers and cheese buyers is, first, to provide information helping this researcher in:

1) assessing how relevant concepts such as purchasing involvement (i.e., interest towards the purchase) and purchasing involvement facets (related to purchaser's goals and expectations from the purchase outcome) are to the cheese market in Greece;
2) deciding which market research techniques are more appropriate to be used for the purposes of this research;
3) organising and conducting a quantitative survey in order to test purchasing involvement and purchasing involvement facet measurement scales;

and second, to provide answers for the following questions:

- which are the salient characteristics of cheese buyers in the market under consideration, that is, sex; position in the household; role in household menu preparation?;
- in which way do purchasers classify cheeses and, if they do, on which cheese types, or categories, should this research effort be concentrated?;
- are there enough indications that not all buyers are equally involved (i.e., interested) in cheese purchase, justifying the efforts for building a purchasing involvement scale?;
- what are the main goals that buyers seek to attain when purchasing cheese (i.e., involvement antecedents and sources)? ;
- what phrases and terms are used by buyers when thinking about a cheese purchase? ;

6.4 Conducting a Qualitative Survey - Empirical Results and Implementation

The qualitative survey (conducted in February 1994) involved individuals interviews and group discussions with purchasers, cheese retailers, and market researchers alike. Details about the conduct and the results of this survey are presented in the following sections.

6.4.1 Interviewing Retailers

Individual interviews were first conducted with retailers - owners or employees of convenient shops (four shops), delicatessen shops (two shops) and supermarkets (five shops). The aim of the interviews was to identify the types of cheese products mostly traded in the area of Athens (the location of the quantitative survey, see Chapter 5), the main characteristics of purchasers, the amount of cheese types bought in each purchase occasion, and the procedure followed during cheese purchase choice.

The outlets chosen were sited in various neighbourhoods of Athens, representing different socio-economic segments of the population. In outlets selling cheese in Greece, usually there is a person serving the customers (i.e., not self-service). In part, this is because not all cheeses are sold in packaged portions. Therefore, somebody

must be available to cut the quantity of cheese required by the customer. Packaged cheeses, may be located in the shop's fresh food section, or, when low temperatures are not a requirement, packaged cheeses may be merchandised in the 'dry' grocery section of the shop.

Interviews with retailers were carried out in an informal manner and at the convenience of the retailer. Further, the researcher also spent time observing purchasers' behaviour in the shop, when this was possible. The outcome of the qualitative survey conducted at the retailers' level are discussed in Section 6.4.4.

6.4.2 Market Researchers Interviews

Market research executives from three market research companies in Greece were interviewed in relation to approaches adopted in qualitative research and to types of questionnaires and quantitative survey techniques employed (for the latter, see Chapter 7). In accordance with the theory discussed in Section 6.2, they suggested that qualitative research can be conducted either before or after the main quantitative survey. They also claimed that the 'group interview' is usually the qualitative instrument adopted, as 'in depth individual interviews' are more expensive to conduct. Usually 6-8 individuals for each group are chosen from a convenient sample frame. In each group, participants are selected to have either similar or different socio-economic characteristics, according to the researcher's objectives. When groceries shopping is involved, female persons responsible for the household grocery purchases are requested to participate in focus groups (for reasons of convenience, the participants are called 'housewives').

As one of the qualitative researcher's expectations from a focus group is to achieve interactive conversation between the group members, the selection of members needs to be undertaken with care. Theory suggests that the more well informed and educated persons have a preditection to monopolise the discussion, that is, 'leaders' and 'opinion followers' might emerge. In such cases, productive interactive conversation does not occur and only the opinion of certain socio-economic groups or individuals would be observed (Sampson, 1986).

Regarding the application of involvement theory in investigating cheese purchasers behaviour in Greece, prominent involvement researchers considered it appropriate to transform existing scales, to suit the needs and special characteristics of cheese buyers and cheese types in Greece. Also, attention should be paid in clarifying which is the role of the buyer in the actual purchase decision process, that is: deciding on product purchase without any input by other members of the household; buying what she has been asked by family members to buy, etc. (Mittal, personal communication, February, 1994).

6.4.3 Cheese Purchaser Interviews

This researcher decided to focus her attention on female persons of the household responsible for cheese purchase. This was because, as discussions with retailers revealed, female are the main cheese buyers, whilst male buyers, usually, follow a shopping list[63]. Though it would be interesting to investigate if there are any differences in purchasing behaviour that could be attributed to the sex of the buyer, such an approach might actually limit the results of the quantitative survey. This, was because, given the information provided by various market participants on gender of cheese buyers, a very uneven number between male and female respondents might emerge, resulting in relatively very small final samples for the male cheese purchaser. Furthermore, if the male respondents were buying cheese following only a shopping list constructed by the female person responsible for the menu preparation and selection, then, purchasing involvement facets could not be identified. From now on, the term 'she' is used to describe the cheese buyer under consideration. The results of the purchaser qualitative are discussed in Section 6.4.4.

6.4.3.1 Cheese Buyer Individual Interviews - Sampling and Conducting

Ten individual cheese purchaser interviews were conducted by the researcher. Each interview lasted approximately two hours. Women interviewed represented a wide range of age (27-62 years old) and socio-economic groups (working to upper middle

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[63] According to the claims of a retailer's organisation representative, 75% of grocery shopping in Greece is carried out by women (personal communication, February, 1994).

class). Interviews were conducted at the interviewee's house, at a pre-arranged, convenient time; for example, when children were at school in order to avoid distractions and stress; or at the time that she would usually have a break from her housework.

Though the researcher had a certain list of issues that should be covered during the interview (see Section 6.3), the interviewee was encouraged to follow her own way of thinking and reasoning, and in her own time[64].

6.4.3.2 Cheese Buyers Focus Groups-Sampling and Conducting

Three 'group discussions' were conducted. Appointments were made with cheese participants at one of the group members house, to conduct a tape recorded qualitative survey. Women in each group were from similar socio-economic groups. Ages within each group were ranged from 25 to 60 years old. In all cases, participants knew each other beforehand. Thus, the atmosphere was friendly and the conversation interactive, as different opinions were expressed without fear of offence. However, the researcher had to be 'on guard' to recognise any signals of 'group leader' and 'opinion follower' phenomena. However, such problems did not emerge. The focus groups discussions, typically, lasted three to four hours and participants seemed to enjoy themselves!

6.4.4 Qualitative Survey Results

In this section, the results of the group discussions with cheese purchasers, and individual interviews with cheese retailers and with cheese purchasers, will be presented and discussed.

6.4.4.1 Types of Cheese Purchased - Time and Place of Purchase

Retailer interviews and purchaser qualitative research showed that the following cheese categories are usually traded and purchased:

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[64]This researcher believes that she succeeded in capturing respondents' full attention; two cases of burnt food during the interview period support this argument!

Feta, Kefalotyri, Kefalograviera, Hard Mizithra, Pecorino, Parmezana, Kerrygold, Reggato, Gruyere, Gouda, Emmental, Edam, cheese slices for toast, Kaseri, Graviera, Mozarela, Blue Cheese, Brie, Camembert, Roquefort, Spread cheeses, and a few other Greek traditional cheeses, such as: Ladotyri, Anthotyro, and Manouri. The majority of these cheeses are sold unbranded.

Usually, two or three cheese categories are purchased by each buyer every time. Cheese purchases, take place, usually, about once a week. When cheese is purchased at a supermarket, it, usually, coincides with the weekly grocery shopping; when it occurs in a convenience and/or delicatessen shop, the purchase may well occur independently of the other grocery purchases.

Depending on the type of cheese they want to buy, buyers either ask the person in the cheese section of the shop to serve them, or, they pick what they want from the fridge. As conversations with retailers revealed, buyers ask for the specific type they want by name, or by explaining the way they want to use it (e.g., cheese for toast).

6.4.4.2 The Role of the Buyer

In involvement literature, it is important to make the distinction between purchaser involvement (i.e., interest in the purchase) and consumer involvement (i.e., interest in the product class). In this qualitative research, it was important to distinguish these two forms of involvement, at the participant level.

In the group discussions and individual interviews, cheese buyers reported that elements taken into consideration when making a choice during cheese purchase include: price; convenience in usage; taste; and the preferences of other members of the household. These few elements are enough to reveal that a cheese purchaser in Athens can be:

- **cheese purchaser:** she is the person responsible for the household cheese shopping. She chooses the outlet she will buy cheese from and she communicates with the person in the cheese section or chooses from the self-service selves; and/or,

- **cheese consumer:** she might like some specific cheese type and that is the reason that she buys it. In this case attention should be paid to identify and measure purchasing involvement and not product involvement; and/or,

- **cheese user:** she uses cheese as an ingredient in dishes that will be consumed by herself and/or other members of the household, or guests.

Being interested in investigating purchasing behaviour for cheese, it seems more appropriate to focus attention on the participant's behaviour as buyer and as user. Mittal (1989a) identified and measured purchasing involvement *per se*. Involvement facets, however, have been identified and measured at the consumer level (Laurent and Kapferer, 1985). In this qualitative survey, effort was placed on identifying purchasing involvement facets - related to goals that buyers try to fulfil through cheese purchase (see Section 6.4.4.4).

6.4.4.3 Classification of Cheeses

Given the multitude of cheeses purchased by and consumed in Greek households (see Chapter 2), for the purposes of this research, it is a practical requirement to group each cheese type into an appropriately buyer-defined cheese category. This would facilitate both the data gathering in the quantitative survey, and the statistical analysis afterwards. For example, if cheeses a, b, and c are perceived by buyers to belong to category X, while cheeses f, g, and h are perceived to belong to category Y, then, whatever the cheese purchased, the answers would be classified either in category X or Y. Literature related to product categorisation, suggests that tangible or imaginary attributes are used by consumers/purchasers (Lefkoff-Hagious and Mason, 1993; Lefkoff-Hagious and Mason, 1990). According to a qualitative survey conducted by Patsis (1993), cheeses available in the Greek market are classified by purchasers, mainly according to: their tangible characteristics, for example, colour, texture, taste, packaging; and the place of origin, for example, Greek or imported.

Table 6.2 Synthesis of Cheese Categories Examined in this Dissertation

Cheese Category	Cheese Types in Each Category
Feta	Feta
Hard Yellow Cheeses	Kefalotyri Kefalograviera Hard Mizithra Pecorino Parmezana Kerrygold Reggato Gruyère Hard Yellow Cheese-unknown type (e.g., bought grated for spaghetti)
Soft Yellow Cheeses	Gouda Type Emmental Type Sliced for Toast Soft Yellow Cheese - unknown type
Kaseri	Kaseri
Graviera	Graviera
Other Foreign Cheeses	White Cheese in Brine Mozzarella Roquefort Blue Cheese Brie Camembert
Spreads	La Vache qui Rit Linea Philadelphia
Other Traditional Greek Cheeses	Mizithra Anthotyro Ladotyri Manouri etc.

This qualitative survey revealed that buyers, usually classify cheeses according to their tangible characteristics and place of origin; but, also, according to their means of usage, for example:

"I offer picant cheeses with ouzo";

"these are sweet cheeses that I use in soufflé";

"I ask for sliced cheese for toast"; and,

"I buy grated cheese for spaghetti, but, I do not know which type it is".

Furthermore, cheeses with distinctive taste, and perceived as expensive are not usually used as ingredients, but, they are offered as an accompaniment to a main course, or served as a cheese plate. Buyers referred to these cheeses using the actual cheese type name (e.g., Feta, Kaseri, Graviera).

Given the above findings, this researcher decided to classify cheese types available in the Greek market into seven categories, representing the principal cheese types purchased in Greece. Each category includes a number of cheeses with similar tangible characteristics and method of usage (Table 6.2).

6.4.4.4 Purchasing Involvement and Purchasing Involvement Facets

Whereas some cheese purchasers participating in this qualitative survey expressed strong interest in cheese purchase procedures, others, said that they bought cheese casually, paying more attention to other sections of the shopping outlets they visit. For example:

"I prefer spending time in the clothes section of the supermarket rather than choosing cheeses";

"all of these cheeses seem the same to me"; and,

"it does not really matter which one I will choose".

A synthesis of responses from the group discussions and individuals interviews revealed that the same purchaser can be more interested in a certain cheese category choice than in another, thus, showing different degrees of purchasing involvement for different cheese categories. Almost all the respondents, for instance, said that the quality of Feta found in the market varies from shop to shop, but, they considered that there is no great difference between yellow cheeses sold 'sliced for toast'. Participants reported that:

"if the Feta I buy is not good, they [i.e., other members of the family] will not eat it" ; or

"they tell me that this Feta is good and they ask for more".

For yellow cheese sold sliced for toast, however, they said that:

> "in any case, even if you do not buy a good one, who is going to understand the difference in the taste - it will be inside the sandwich!".

In both cases, it is apparent that the buyer is interested in the reactions of the other household members that will consume the cheese products. Other comments indicate that some of the buyers consider themselves as connoisseurs in cheese choice and have strong opinions regarding cheese choice:

> "I know how to choose a good Feta"; and
>
> "I trust my choice".

Still, the comments of some of the buyers that were participating in the qualitative survey show that it is difficult to separate the 'buyer' from the 'user', especially, where it concerns social gratification and confidence related to a cheese product choice and usage:

> "I make a wonderful cheesepie. The secret is in the combination of cheeses I use";
>
> "everybody likes my soufflé!";
>
> "I feel confident offering this cheese".

Participants' comments presented earlier indicate to this researcher the existence of an involvement facet that includes elements of the buyer's goals related to her need to express herself as having the knowledge of how both to choose and use cheese products. It also seems that this facet is related to her needs to receive social gratification for these abilities. Therefore, she needs a product that will make her feel confident (i.e., less social risk) for using it and offering it. Therefore, it seems reasonable that effort should be expended on developing a scale which identifies and measures self-expression and confidence as a purchasing involvement facet. Furthermore, regarding social gratification and self-expression, some participants said that, when a cheese product is chosen in order to be offered to guests:

> "the way the cheese was produced does not really matter, it is only the taste and appearance that matters"; and
>
> "I am only interested in receiving good comments about my hospitality, not their health!".

The above show that a different degree of purchasing involvement and different types of purchasing involvement facets may arise depending on the interest of the buyer in receiving good comments about her choice. However, because of constraints regarding the length of the questionnaire used for the quantitative survey, purchasing involvement and purchasing involvement facets for cheeses consumed on special occasions were not investigated.

Confidence in a product, however, may not only be related to the 'social' risk of receiving bad reactions from those that will consume the product, but also, due to problems that may arise from the way the cheese is produced, for example, hygienic conditions of production. Risks of this type are referred to as functional risk by researchers.

As functional risk, that is, the perceived probability of mispurchase due to poor/inadequate product tangible characteristics, was not emerging as a possible involvement facet, the opportunity was taken during the individual interviews to ask the participants to consider the case of a mispurchase. The suspicion was that a high probability of mispurchase might evoke the purchaser's interest towards purchase, and might involve her in behaviour such as prolonged search for a product, more time spent in visiting another shop, etc. Respondents' reactions to this tack, could be classified into two broad categories:

- reactions of respondents buying branded cheese products. The danger of mispurchase was perceived as remote, as product quality was perceived not to vary significantly. In this case, risk is seen as being related to 'brand choice';
- reactions of respondents buying non branded cheese products - in this case the majority of cheese purchases. In this case, first, respondents considered that it was normal to have variations in the quality of cheese purchased. This, is not surprising, particularly for a cheese such as Feta. The quality varies during the year because of changes in the diet of the animals. Second, respondents relate the quality of product they buy to the shop they frequent. In this case, the person serving the customers in the shop would

be seen as a gatekeeper that selects and suggests good quality products for his/her customers.

The complexity of the term 'quality' is shown above. Some participants perceive the term to indicate 'taste', whereas others perceive it as indicating hygiene conditions in production and quality of ingredients used. Given the low percentages of branded products, the large number of outlets selling cheese, and the different perceptions of participants about risk, it was considered difficult to gain valid responses related to functional risk - unless detailed explanations were given to the respondent. There was always the danger of measuring something different from what that which was intended. Therefore, a scale for functional risk measurement was not developed, and increased effort was put into developing measurements that had a better chance of demonstrating announced levels of reliability and validity!

Pleasure through purchase, was also eliminated from the purchasing involvement facets that could have been identified and measured. Often, the buyer purchases a cheese not because she likes consuming it, but, because another member of the household likes it. In such a case, she might confuse the pleasure received through the purchase procedure with the pleasure received from the actual consumption of the cheese. This would generate a 'low' value for 'pleasure gained from cheese purchase'. There are always compromises to be made in undertaking primary research and, thus, this interesting problem was set aside for another day!

Other cheese characteristics that influence buyer choice, seem to be related to value for money and convenience. More particularly, almost all of the cheese purchasers participating in this survey considered cheese products to be expensive. Very often the first comment about the product class under consideration was:

"Cheeses? Very expensive!"

However, respondents were happy buying cheeses that were perceived as being good value for money, because of their convenience, ease of preparation, etc.:

"When I do not have time to cook I prepare toasts for the children and the problem is solved!";

or, for cheeses that were perceived as versatile and easily stored:

"I buy it and have it in the fridge, I will definitely use it in one way or other".

Last but not the least, very often, cheese buyers consider cheese as an important element in their menu structure:

"I always put cheese on the table".

Indeed, product importance has, often, been considered as a central involvement antecedent and was measured as an indication of involvement (Gardner and Lastovicka, 1979; Bloch, 1981; Bloch and Richins, 1983; Laurent and Kapferer, 1985; Dimanche *et al*, 1991). Thus, in this dissertation, a scale measuring this construct has been developed and tested.

Given the qualitative research findings that were reported and discussed in this Chapter, the Research Hypotheses, formulated in Chapter 5, were refined as follows:

Hypothesis 1. Buyer involvement in cheese purchasing can be identified and measured.

Hypothesis 2. Cheese purchasing involvement antecedents fall into certain distinct categories, viz.:

a) cheese importance for the household;

b) buyer self-expression and confidence;

c) utility due to convenience and price.

Hypothesis 3. Cheese buyers can be classified into specific groups according to their purchasing involvement profiles.

6.5 Conclusions

In this chapter, qualitative research (including individual interviews and groups discussions with cheese retailers, market researchers and cheese buyers in Athens) revealed the general profile of cheese purchasers in the market. Usually, the cheese buyers are women, responsible for the household menu shopping; generally, buying 2-3 types of cheese, typically unbranded and in bulk at every cheese purchase occasion, from supermarkets, shops specialising in cheese retailing, convenience shops, or delicatessen.

The qualitative survey showed that not all buyers are equally interested in cheese purchase (i.e., purchasing involvement). Furthermore, it seems that there are various underlying factors that motivate cheese buyers in being more or less interested in product purchase; for example: perceived[65] cheese product importance for the household, perceived self-expression and confidence, perceived utility due to convenience and price. Consequently, attention has been focused on the development and testing of four scales identifying and measuring the concepts mentioned above. Other factors, such as pleasure and functional risk, were deemed to require very detailed explanation before their meaning could be fully understood by qualitative and quantitative methods. For this reason, the development of measurement scales for these concepts was considered inappropriate for this stage of research - a stage, which embraces only a first attempt in using involvement theory while investigating cheese purchases in the market under examination. It might merit, however, much closer attention in future research work.

Conducting the qualitative analysis in order to discount which theoretical constructs are relevant to this research problem, and gaining information on various issues related to the product class and market under examination, was only the first step in the development of measurement scales and testing of the research hypotheses. The next step is to build the scales and, then, to gather data in order to test their reliability and validity. Building the scales and organising and conducting a quantitative survey in order to gain the data needed for their testing is the theme of the next chapter.

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[65] the term perceived is used here to denote that product importance, self-expression and confidence and utility due to convenience and price are reported by the buyers than independently measured.

CHAPTER 7: DEVELOPING PURCHASING INVOLVEMENT AND PURCHASING INVOLVEMENT FACET MEASUREMENT SCALES

7.1 Introduction

In the previous chapters, the need to develop scales for measuring purchasing involvement and purchasing involvement facets has been discussed. To develop these scales, and following the analytical framework presented in Chapter 5, five steps must be completed:

1) identify how relevant the theoretical concepts under consideration are to the product class and market under consideration;
2) construct a pool of items - Likert-type statements - measuring the constructs that are pertinent to this research;
3) construct measurement scales;
4) refine these scales through small-scale surveys with cheese buyers (i.e., pilot survey);
5) test the refined scales using data from quantitative surveys.

The first of the above steps was completed through the qualitative survey presented in Chapter 6, while the steps 2 to 5 will be discussed in this chapter.

7.2 Constructing Measurement Scales

Four involvement constructs have been identified as relevant to cheese purchasers in Athens (see Chapter 6), viz.: perceived purchasing involvement, perceived importance of cheese for the household, perceived self-expression and confidence, and perceived utility due to convenience and price. Also, five cheese categories have been selected, to cover the types of cheese purchased most frequently in Athens, that is, Feta, Hard cheese, Soft cheese, Graviera and Kaseri.

As the literature review shows, when measuring involvement and involvement facets, involvement researchers construct scales that comprise, usually, Likert-type statements. As it has been explained in Chapter 4, care is needed in the construction of

involvement scales to ensure that the constructs being measured are the ones that the researcher wants to measure.

When selecting which statements to include in the measurement scales, it is important to focus attention on the buyer's relationship with product choice and product use; that is, the researcher must be aware of the obfuscation that can lead from measuring the consumer's involvement with the product, instead of the buyer's involvement with the product purchase. For this reason, the phrases 'I buy' and 'I use' will be included in most statements to remind the respondent that it is her role as buyer and user that is important, and not her liking or disliking of certain cheese categories.

The choice of statements, necessary for building the measurement scales initially, was based on a review of responses from the individual interviews and group discussions garnered from the qualitative survey, plus selective use of this researcher's intuition. Then, a pilot survey was conducted in order to check how cheese purchasers in Athens, were interpreting these statements. This procedure is presented in the following sections.

7.2.1 Creating a Pool of Statements for Measurement Scales

7.2.1.1 Perceived Purchasing Involvement Related Statements

The following statements intend to capture buyer's involvement with the cheese purchase, that is, gauging how interested the purchaser is in the act of purchase:

- I think that the various types of ___ available in the market are all very alike;
- When I buy ___ , I pay attention to make a right choice;
- Relative to other grocery shopping, I enjoy buying ____;
- In relation to other grocery shopping, it is important to choose a good ____;
- Relative to other grocery shopping, buying ___ is boring;
- From the various ___ that can be found in the market, it does not really matter which type or brand I will buy.

7.2.1.2 Perceived Cheese Importance Related Statements

Again, attention was needed to make sure that the statements expressed buyers' feelings about the product in relation to the household menu, and not to her own diet. The following statements were selected:

- ___ is necessary for my house;
- ___ is an important component of the household menus;
- ___ is basic foodstuff for my household;
- ___ is an important source of calcium for the members of my household.

7.2.1.3 Perceived Self-expression and Confidence Related Statements

- buying ___ is a familiar procedure for me;
- buying some good ___ is a good way for me to show my family that I care for them;
- I like giving information about ___ I bought;
- it is important for me not to receive negative comments about the ___ I bought;
- buying ___ , I feel that I use my experience to choose the right one.

7.2.1.4 Perceived Utility due to Convenience and Price Related Statements

- I buy ___ because it helps in making an easily prepared meal - it saves time;
- I buy ___ because it is good value for money;
- I buy ___ because it is easy to use, it offers solutions;
- I buy ___ because I can use it in different recipes.

7.2.2 Conducting a Pilot Survey

A Pilot Survey was conducted in Athens in April 1994. The sample comprised of 50 respondents: female members of the household, responsible for cheese purchase, and representing various socio-economic classes.

The purpose of the survey was to, qualitatively, assess the statements presented in the previous sections with the purchasers. Simultaneously, the relevance of the 5, 6 and 7

point Likert-type scales, of the strongly agree, strongly disagree form were tested to determine which were the most appropriate for the research project at hand.

Table 7.1 Scales Measuring Purchasing Involvement and Purchasing Involvement Facets

Construct Measured	Statements	Sort Code
Perceived[66] Purchasing Involvement	1. All ---- found in the market are similar .	PINV1
	2. From various --- found in the market, it does not really matter which one I choose .	PINV2
	3. In relation to other foodstuffs, it is important to choose a good ----.*	PINV3
Perceived[66] Importance	1. --- is important for my household .	IMPR1
	2. --- is basic foodstuff for my household .	IMPR2
	3. --- is an important part of my households menus.	IMPR3
Perceived[66] Self-expression and Confidence	1. I know that the ---- that I buy is made from good ingredients and I trust it .	EXPR1
	2. I am used to buying and I know the types and quantities sold in the market.	EXPR2
	3. I usually talk to other people for the ---I select.	EXPR3
	4. I attract good comments when I offer it or use it in recipes.	EXPR4
Perceived[1] Utility due to Convenience and Price	1. I buy it because it is convenient, I can use it in many ways.	UTIL1
	2. I buy it because I can use it in various ways so it offers solutions.	UTIL2
	3. I buy it because it is good value for money.	UTIL7

Note: * denotes items that are reverse scored.

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[66] For reasons of convenience, in this dissertation, the terms 'perceived purchasing involvement', 'perceived importance', 'perceived self-expression and confidence' and 'perceived utility due to convenience and price' will be used interchangeably with the terms 'purchasing involvement', 'importance', 'self-expression and confidence' and 'utility due to convenience and price' respectively.

Face-to-face interviews were conducted at the respondents' houses between 9.30a.m. and 1.00p.m., and 5.00p.m. and 8.00 p.m. Seven to eight interviews were conducted each day. Every day, the statements were modified accordingly and were re-tested the day after. Given this procedure, and the small use of the sample, no statistical tests were applied to the answers. Finally, a set of thirteen statements was considered as satisfactory for testing on a large scale quantitative survey (Table 7.1).

Furthermore, 5-point Likert type scales, strongly disagree to strongly agree, were considered to be as more appropriate than the 7- or 6- points scales. This is because the 5- point scale has a central point (neither disagree, nor agree) and was received more positively than the 7-point scale, for the product class under consideration. In short, respondents did not feel at ease with a more lengthy 7- point scale related to purchasing behaviour for cheese.

7.3 Quantitative Research - Theoretical Background

To test how well the scales measure the constructs under consideration, a quantitative survey of cheese purchasers was undertaken, in Athens, the first two weeks of June 1994. In the following sections, first, information related to the design of the quantitative survey and, second, the procedures undertaken for the development of the questionnaire needed for this research will be presented.

7.3.1 Categories of Quantitative Research

In quantitative surveys, questionnaires are used to collect answers given by respondents to questions related to the concepts researchers wish to investigate - here, cheese purchasing involvement and purchasing involvement facets.

There are two major categories of quantitative research undertaken by market researchers:

- **Interview research.** This can be conducted through mail, telephone or face-to-face and, generally, comprises two types - both based on a questionnaire:
  - a) ad-hoc, initiated by one client only;
  - b) omnibus, initiated by more than one client.

- **Panel research**. Respondents agree to complete questionnaires, within a specific period of time on a regular basis. Usually, the questionnaire concerns items purchased during a specific time period.

To decide which of the above categories to use, the researcher needs further information on the market under consideration (e.g., respondents willingness to give face-to-face interviews, cost, etc.). For the purposes of this research, an *ad hoc* survey seems most appropriate.

7.4 Quantitative Research - Design

7.4.1 Sample

For the results of a quantitative survey to have statistical validity, a representative sample has to be used. There is an extensive literature on sampling procedures that can assist the researcher (see Scheaffer *et al*, 1990, Morton-Williams, 1986). The final decision, however, depends upon various factors, such as the amount of information the researcher wants to elicit from the questionnaire, the accuracy of the results required and, also, on resource constraints (e.g., time and money), market constraints (respondents' willingness to respond), and product constraints (seasonality).

The quantitative survey for this research was undertaken by a market research company. Their sample was consisted of three hundred respondents in three clusters of neighbourhoods in Athens. The neighbourhoods have been stratified according to socio-economic criteria; then, individual cases have been selected at random in each of the neighbourhoods (See Appendix 3).

The three hundred respondents (18 - 65 years old) were female members of the household, responsible for cheese shopping. Secondary data support this evidence; in 1993, 85 percent of the household shopping was carried out by the senior female person in the household (*Self-Service*, 1993, 197, p.71).

7.4.2 Interviewing Method

The choice of interviewing methods is related to the place of the interview (at home, in the street, in shops, at working places etc.), the method (face-to-face, telephone, mail, etc.) and the time (e.g., a specific day of the week or time of the day, etc.). The method which is most appropriate for a specific research project depends on:

- the survey's subject (e.g., sensitive issues, such as addiction to alcohol and drugs, are not easily discussed in a public place);
- the respondents;
- the social characteristics of the environs (e.g., people friendliness, household density, crime levels, etc.);
- the length of the interview;
- funds and technology available (Morton-Williams, 1986).

Taking the above into consideration, together with requirements, such as:

-the survey subject was concerned about cheese purchasing habits;

-the respondent was the female person of the household, responsible for food shopping;

-the estimated time of questioning could be up to but not exceed 30 minutes (at the risk of losing the interest of the respondent);

-women in Athens are used to surveys and there are no particular problems with their willingness to participate in surveys;

the face-to-face interview at home was chosen as the most appropriate method for interviewing.

7.5 Questionnaire - Design and Development

Questionnaire design is critical to the overall market research process. Morton-Williams (1986, p.114) distinguishes six functions that the questionnaire should fulfil:

" a) maintaining the respondent's co-operation and involvement;

b) communicating to the respondent;

c) helping the respondent to work out his answers;

d) avoiding bias;

e) making the interviewer's task easy;

f) providing a basis for data processing".

Most importantly, the questionnaire should provide information that is not only relevant to the research objectives but, also, is accurate.

7.5.1 Main Sections in the Questionnaire

How many sections and questions per section should be included in the questionnaire depends on the type of information the researcher intends to gather. The questionnaire for this research was divided into four major sections.

Section A. Purchasing behaviour : which types of cheeses are purchased by the respondent and how often.

Section B. Ways and frequency of usage for each cheese category for which the questionnaire is completed.

Section C. Purchasing involvement and purchasing involvement facets measurement scales.

Section D. Demographic characteristics of the respondent, (e.g., age, marital status, age of children, profession of major income earner, education, income).

A reminder that the sample comprised 300 respondents. In order to increase the number of cases upon which the final analyses could be based, and following the example of other involvement researchers (Laurent and Kapferer, 1985; Mittal, 1989a; Mittal and Lee, 1989; Kapferer and Laurent, 1985), statements on the two most frequently purchased cheese categories were included in Section C of the questionnaire. The English version of the questionnaire used in this research, the way that it was completed, and a brief description of the respondents characteristics are presented in Appendix 4 (the actual version of the questionnaire, of course, was in the Greek language).

7.6 Epilogue

In this chapter, the construction of scales for measuring purchasing involvement and purchasing involvement facets for cheese buyers in Athens was presented. Also, details about the quantitative survey necessary for gathering data in order to test the

properties of the scales were discussed. In the following chapters, the scale properties will be tested and some practical marketing applications of the results will be demonstrated.

CHAPTER 8. DEVELOPING MEASUREMENT INSTRUMENTS FOR PURCHASING INVOLVEMENT-RELATED CONSTRUCTS

8.1 Introduction

In Chapter 5, an analytical framework was constructed and research hypotheses were formulated for investigating cheese purchasing behaviour in Greece. To accept and/or reject these hypotheses, product class and market specific scales for measuring purchasing involvement and purchasing involvement facets were constructed and tested on cheese buyers.

Qualitative data (Chapter 6) indicated that buyers are not all equally interested in cheese purchases (purchasing involvement). Furthermore, according to involvement literature, interest in purchasing cheese products (i.e., purchasing involvement) can be triggered by underlying factors (i.e., purchasing involvement facets) related to purchaser goals and expectations fulfilled through purchase (Chapter 4). Regarding cheese purchasing in Greece, a qualitative survey conducted in Athens showed that such factors are: importance of cheese for the household menu; self-expression and confidence; and utility due to convenience and price. To measure purchasing involvement and purchasing involvement facets, measurement scales have been constructed and quantitative data have been gathered (Chapter 7) to test the properties of these measurement instruments, viz.:

- reliability, that is, do the items in each scale measure the same construct? This test will show how well the constructs, initially conceptualised by the researcher, can be identified and measured in the sample population, using the scales developed for this dissertation;
- validity, that is, are the traits initially conceptualised correct? Testing the trait and discriminant validity of the scales will indicate the degree that purchasing involvement and purchasing involvement facets are different constructs (albeit inter-related, see Section 8.5.2).

In testing for reliability and validity of the scales, the first two hypotheses of the present research are addressed, viz.:

Hypothesis 1. Buyer's involvement in cheese purchasing can be identified and measured; and

Hypothesis 2. Cheese purchasing involvement antecedents and sources fall into certain distinct categories, viz.:

-the importance of cheese to the household as perceived by the buyer;

-buyer self-expression and confidence;

-utility due to convenience and price.

8.2 Testing Scale Reliability - Statistical Tools

The involvement literature reports that Cronbach's coefficient alpha is the most efficacious measure of scale reliability (Laurent and Kapferer, 1985; Mittal 1989a; Dimanche *et al*, 1991; Bloch, 1981; Slama and Tashchian, 1985; Peterson, 1994). First, Cronbach's coefficient alpha will be discussed in the next section and, then this coefficient will be used to test and interpret the reliability of the scales developed for the purposes of this dissertation.

8.2.1 Cronbach's Coefficient Alpha

Each of the four scales, developed for the needs of this research, comprises items that are Likert-type statements. The basic assumption underlying the sampling of these items is that all belong to the domain of the concept that is being measured. Each item is expected to have:

- a certain amount of distinctiveness, or specificity, in relation to the construct that the researcher is 'endeavouring' to capture (i.e., dealing with <u>different</u> aspects of the <u>same</u> dimension);
- and an amount of common core related to the concept.

The higher the level of shared common core, the higher the inter-item correlations are expected to be (Churchill, 1979; Nunally, 1967; Norusis, 1993). A high amount of distinctiveness coming to the scale from separate items might indicate that the scale captures a complex construct. In this case, and according to the needs and the

constraints[67] of the researcher, it might be fruitful to breakdown this complex construct into simpler underlying constructs, and measure these separately.

Using Cronbach's coefficient alpha, the assumption is made that all items in a scale belong to the same domain, that is, the domain of the concept being measured, and the coefficient values represent the correlations between items giving, thus, an indication of the items that should be deleted; that is, if inter-items correlations are low, then, the indication is that they do not measure the same construct and can be deleted from the scale in order to increase its reliability. The following formula is used to calculate α:

$$\alpha = \frac{k\,\overline{cov} / \overline{var}}{1 + (k-1)\,\overline{cov} / \overline{var}} \qquad (1)$$

where k is the number of items in the scale, $\overline{cov}$ is the average covariance between items and $\overline{var}$ is the average variance of the items (Norusis, 1993). If the items are standardised to have the same variance, formula (1) becomes:

$$\alpha = \frac{k\,\overline{r}}{1 + (k-1)\,\overline{r}} \qquad (2)$$

where $\overline{r}$ is the average correlation between items.

This formula indicates that the value of alpha depends both on the length of the measurement scale (i.e., number of items) and on the correlation between the items. In fact, high reliability coefficients can be obtained if the number of items is large, even when the average inter-item correlation is small (Norusis, 1993; Bloch, 1981).

Cronbach's coefficient alpha, interpreted as a correlation coefficient, can lie within a range between 0 and 1. Zero indicates no reliability whereas 1 indicates a perfectly reliable scale. Negative alpha values are obtained when items are negatively correlated.

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[67] usually financial.

In such cases, the reliability model is violated (Norusis, 1993). The level of alpha considered satisfactory depends on the stage of the research and the objectives of the researcher. According to the literature, magnitudes between 0.50 and 0.60 suffice for early research work. Coefficients above 0.80 are desirable for final stages of research (Nunally, 1969; Bloch, 1981; Churchill, 1979; Peterson, 1994).

Cronbach's alpha is automatically calculated using computer statistical packages such as SPSS/PC+, SAS, etc. The evaluation of the reliability of a scale is based on the value of alpha. Additional statistics provided by SPSS/PC+ during scale reliability analysis procedures include: corrected item-total correlation, that is, the Pearson correlation coefficient between the score on the individual item and the scores on the remaining items; alpha if item deleted; and squared multiple correlation (SMC), that is, the multiple R^2 from a regression equation[68], with the item of interest as the dependent variable and all the other items as independent variables (Norusis, 1993). As a review of involvement research literature reveals, these ancillary statistics are not usually reported (Mittal, 1989a; Laurent and Kapferer, 1985; Mittal and Lee, 1989; Dimanche *et al*, 1991). Taking into consideration the early stage of development of scales to measure cheese purchasing involvement (and facets), an examination of the ancillary statistics identified above, could give valuable insights for future research on the measurement instruments. Still, while 'corrected item-total correlations' and 'alpha if item deleted' give straightforward interpretable results, the interpretation of the squared multiple correlation (SMC) is more complex; this is due to the sensitivity of the regression solution to the combination of variables that are included. Most importantly, to calculate the SMCs, variables/items included in scales are supposed to be uncorrelated (Tabachnick and Fidell, 1989) - a requirement that is far from being met in most measurement instruments. The reader is reminded that the selection of items to be included in these scales is based on the assumption that they belong to the same conceptual domain. In this dissertation, the SMCs for the scales examined will be

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[68] Whilst correlation coefficients are used to measure the size and direction of relation between two variables, regression analysis can be used to predict a score on one (dependent) variable from a score on the other (independent) (Tabachnick and Fidell, 1989).

reported, but, no action (e.g., deletion of items) will be taken given the criticisms reported above.

8.3 Reliability Analysis - Empirical Results

This reliability analysis was based on results from the quantitative research conducted in Athens (see Chapter 7).

8.3.1 Cronbach's Coefficient Alpha

The results from the reliability analyses indicate that three scales are internally consistent (Table 8.1). Reliability analysis of the scale measuring purchasing involvement resulted in a Cronbach's alpha coefficient of 0.63. The reliability analyses of the two scales measuring involvement facets, that is, importance of cheese for the household and self-expression and confidence, resulted in alpha coefficients of 0.90 and 0.67, respectively. The coefficient for importance is high, whereas the other two, although relatively modest, are still above the threshold of acceptability. The levels obtained are considered satisfactory: first, in light of the length of each scale, that is, three items for the importance and purchasing involvement scales, and four items for the self-expression and confidence scale (Bloch, 1981; Laurent and Kapferer, 1985; Dimanche *et al*, 1991); and, second, for the stage and aim of the research, that is, it is only a first attempt to identify and measure purchasing involvement and purchasing involvement facets in the context of the cheese market in Greece.

The scale constructed to measure utility due to convenience and price resulted an α coefficient of 0.51. This value of alpha was considered too low and it was not included in subsequent analyses. Still, it is of great interest to see if this scale, even if not reliable, demonstrates trait and discriminant validity. If this happens, the qualitative findings, showing a price-convenience related factor, labelled the 'utility factor', will be confirmed. In such a case, the construct responding to the scale, and the items comprising it, would merit closer examination in future studies. At least theoretically, one more purchasing involvement facet can be conceptualised, even if not, actually, empirically confirmed. Such an approach would not be new in involvement theory.

Items with similar reliability performances have been treated in this way by Dimanche *et al* (1991) and Bloch (1981).

Table 8.1 Purchasing Involvement and Purchasing Involvement Facet Scales

Constructs	Items	Sort Code	Statistics for Scale		
			Average Score on Items	Average of Item Variance	Cronbach's Coefficient α
Purchasing Involvement	1. All —— found in the market are similar.	PINV1	5.57	2.57	0.63
	2. From various —— found in the market, it does not really matter which one I choose.	PINV2			
	3. In relation to other foodstuffs, it is important to choose a good ——.*	PINV3			
Importance	1. —— is important for my household.	IMPR1	13.17	2.63	0.90
	2. —— is basic foodstuff for my household.	IMPR2			
	3. —— is important part of my household menus.	IMPR3			
Self-expression and confidence	1. I know that the —— that I buy is made from good ingredients and I trust it.	EXPR1	14.95	3.57	0.67
	2. I am used to buying —— and I know the types and quantities sold in the market.	EXPR2			
	3. I usually talk to other people for the ——I select.	EXPR3			
	4. I attract good comments when I offer it or use it in recipes.	EXPR4			
Utility due to convenience and price	1. I buy it because it is convenient, I can use it in many ways.	UTIL1	9.65	2.67	0.51
	2. I buy it because I can use it in various ways so it offers solutions.	UTIL2			
	3. I buy it because it is good value for money.	UTIL7			

* Reverse scored

Additional statistics show that the average scores for the three scales are: 5.57 for the purchasing involvement measurement scale; 13.17 for the importance measurement scale; and 14.95 for the self-expression and confidence measurement scale. Standard deviations are 2.57, 3.57 and 2.63, respectively.

A brief literature review of Cronbach's correlation coefficients for scales that measure involvement-related constructs, and which have been tested by other researchers, are presented in Table 8.2.

Table 8.2 A Review of Cronbach's Coefficient Alpha for Involvement Related Construct Measurement Scales.

Construct Measured	Number of Items	Cronbach's Coefficient Alpha	Researcher
Involvement with product class	17	0.79	Bloch (1981)
Product Perceived Importance	4	0.80 (0.80)*	Laurent and Kapferer (1985)
Perceived sign value of the product class	4	0.90 (0.96) *	
Hedonic value of the product class	5	0.88 (0.89) *	
Subjective probability of a mispurchase	3	0.72 (0.90) *	
Perceived importance of negative consequences of a mispurchase	3	0.82 (0.89) *	
Involvement	26	0.95	Zaichkwosky (1985a)
Perceived product importance	3	0.84	Mittal and Lee (1989)
Perceived brand choice importance	3	0.88	
Product level sign value	5	0.86	
Brand level sign value	3	0.71	
Product level hedonic value	3	0.78	
Brand level hedonic value	2	0.56	
Product risk	2	0.67	
Perceived brand risk	2	0.66	

* within brackets, the reliability same scales as tested by Dimanche *et al* (1991)
Source: Bloch (1981), Laurent and Kapferer (1985), Zaickhowsky (1985a), Mittal and Lee (1989).

Typically, the reported alphas are relatively high as they correspond to final stages of scale development and, in some cases, to a larger number of items. Therefore, their

magnitudes should not be compared directly to the results of the reliability analysis undertaken in this section.

8.3.2 Performance of Individual Items

The correlations between items ranged from 0.29 to 0.49 for the purchasing involvement scale, 0.75 to 0.82 for the importance scale, 0.27 to 0.39 for the self-expression and confidence scale, and 0.31 to 0.40 for the utility due to convenience and price scale (Table 8.3). Item-total statistics for each scale are given in Table 8.4.

Table 8.3 Matrix of Correlations between Items Comprising each Scale.

Purchasing Involvement	PINV1	PINV2	PINV3	
PINV1	1.0000			
PINV2	.4996	1.0000		
PINV3	.3374	.2982	1.0000	
Importance	**IMPR1**	**IMPR2**	**IMPR3**	
IMPR1	1.0000			
IMPR2	.7517	1.0000		
IMPR3	.7206	.8253	1.0000	
Self-expression and Confidence	**EXPR1**	**EXPR2**	**EXPR3**	**EXPR4**
EXPR1	1.0000			
EXPR2	.3658	1.0000		
EXPR3	.3931	.3793	1.0000	
EXPR4	.2760	.2806	.3616	1.0000
Utility due to convenience and price	**UTIL1**	**UTIL2**	**UTIL7**	
UTIL1	1.0000			
UTIL2	.4001	1.0000		
UTIL7	.0653	.3176	1.0000	

Corrected item-total correlations (Table 8.4) vary for each item and scale from 0.36 for PINV3 in the purchasing involvement scale, indicating a relatively low relationship between this item and the other items in the same scale, to 0.85 for IMPR2 in the importance scale, indicating a relatively strong relationship between this item and other items in the same scale. This researcher's view is that the items which comprised

the purchasing involvement scale, that is, interest in the purchase due to importance of the product (PINV3), interest in the purchase due to similarity of products in the market (PINV1), and importance of the choice (PINV2), express different aspects of purchasing involvement. As a result, it is not surprising that they demonstrate relatively low item-total correlations. These items also demonstrate low squared multiple correlations, which expresses the ability to predict one item from the others.

For the importance scale, all the items express more or less the same aspects of the importance facet of purchasing involvement. Item-total correlations are high, and each item to a large extent, can be predicted by the other two items.

Table 8.4 Item-total Statistics for each Scale.

Scale	Corrected Item/Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Purchasing Involvement			
PINV1	.5362	.2886	.4099
PINV2	.5055	.2686	.4821
PINV3	.3641	.1362	.6574
Importance			
IMPR1	.7707	.5965	.9042
IMPR2	.8513	.7324	.8366
IMPR3	.8282	.7342	.8564
Self-expression and confidence			
EXPR1	.4621	.2206	.6082
EXPR2	.4549	.2134	.6090
EXPR3	.5144	.2656	.5678
EXPR4	.4036	.1668	.6422

The column 'Alpha if item deleted' (Table 8.4) indicates the effect that the elimination of each of the items would have had on the scale. The deletion of some items would have had a greater effect on the reliability of the scale than the elimination of others; for example, deleting PINV1 would lower the purchasing involvement scale reliability to 0.4099, whereas deleting PINV3 would increase the scale reliability to 0.65. The

latter result implies that, in future research, further qualitative and quantitative examination of this item might lead to a more reliable scale.

8.4 Testing Scale Validity - Statistical Tools

Factor analysis is extensively used by researchers to test scale trait and discriminant validity (Laurent and Kapferer, 1985; Mittal and Lee, 1989; Mittal, 1989a; Bloch, 1981; Gardner and Lastovicka, 1979; Dimanche *et al*, 1991; Babin *et al*, 1994). This method has been adopted for the needs of this dissertation (Chapter 5). In the following sections, factor analysis purposes, procedures and characteristics are presented and discussed in relation to the problems and purposes of this present research.

8.4.1 Factor Analysis - Aim and Definitions

Frequently, in social sciences, information is sought on variables that cannot be directly measured (e.g., intelligence, personality). In involvement theory, for instance, constructs such as purchasing involvement, or self-expression and confidence, cannot be directly measured. The variables representing such non-directly measurable constructs are called **latent** variables. **Observable** variables (also called manifest or input variables) are measured instead. In the case of this research, these observable variables are items (i.e., Likert-type statements) presented as involvement construct measurement scales. These observable variables are assumed to be indicators of the underlying, non-directly measurable variables. Therefore, a latent variable (also called underlying construct) is a non observable variable that has a value calculated from a knowledge of the manifest variables that are associated with it (Everitt and Dunn, 1991; Manly, 1992).

The statistical analysis through which a latent variable is inferred from manifest variables is called **Factor Analysis (FA)**. The ultimate scope of factor analysis is to measure the latent variables. The basic idea underlying FA is that common underlying variables can be identified because they are responsible for **common variance** that all

observable variables included in the analysis share among them. This common variance is called **communality**.

The latent variables are called **factors** and their values, derived from the observable variables values, are called **factor scores**. Therefore, for each case-cheese category buyer, there are two values - that is, one for the observed variable and one for the underlying variable. Often, factor scores are used by researchers as new variables for further analyses. In involvement literature, such factor scores have been used as the basis for market segmentation (Chapter 10).

Each factor is responsible for a certain amount of variance in the variables under consideration. The variance explained by each factor is called the **eigenvalue**. The latent root criterion, used to decide how many factors should be extracted, is based on the eigenvalues. Usually, for Principal Component Analysis (PCA), only factors with eigenvalues greater than one are retained (Hair *et al*, 1992).

In this research, purchasing involvement and purchasing involvement facets can be considered as latent variables. As the literature suggests, and as revealed in the qualitative survey, purchasers do not relate to questions such as 'how involved are you with cheese purchase?'. For this reason, manifest variables, for example, Likert-type items, are measured instead. Using Factor Analysis, values of latent variables can be derived from the values of the manifest variables. The SPSS/PC+ (Release 6.0 for Windows), will be used for factor analytical procedures undertaken herein.

8.4.1.1 Factorial Models

The form of data that can be factor analysed is as follows:

Case	x_1	x_2	...	x_p
1	x_{11}	x_{12}	...	x_{1p}
2	x_{21}	x_{22}	...	x_{2p}
3	x_{31}	x_{32}	...	x_{3p}
.				
n	x_{n1}	x_{n2}	...	x_{np}

where:
1...n: cases
$x_{1...p}$: manifest variables

Based on such type of data on observed variables (e.g., values on Likert-type statements related to purchaser's goals), factors can be estimated (as linear combinations of the observed variables), for example, purchasing involvement facets.

Factor analysis is based on a factor model. More specifically, if x_1, x_2, x_3, ...,x_p are the observable variables and f_1, f_2, ..., f_k represent the common factors (or latent variables), then, the factor model will be as following:

$$x_i = \lambda_{11} * f_1 + \lambda_{12} * f_2 + \lambda_{1k} * f_k + u_1$$

.

.

$$x_p = \lambda_{p1} * f_1 + \lambda_{p2} * f_2 + \lambda_{pk} * f_k + u_p$$

or, more concisely:

$$x = \Lambda * f + u$$

where: u_1, u_2, ..., u_p are residual terms called **unique factors** and represent that part of x_i that cannot be explained by the common factors; Λ is a function of λ_{ik} .

Unique factors are assumed to be uncorrelated with each other and with the common factors (Everitt and Hay, 1992). λ_{ik} are partial regression coefficients, called **factor loadings**, representing correlations between the factors and the observed variables in orthogonal rotation[69]. Factor loadings provide information related to which variable is associated with each factor and to what extent, while squared factor loadings indicate the percentage of the variance in an original variable that is explained by a factor. Researchers use this information in order to identify and label the latent variables. This shows that the results of factor analysis depend a lot on the researcher's judgement and are subjective (Aaker and Day, 1990; Hair *et al*, 1992).

From the above, each observable variable can be regarded as a dependent variable that is a function of the underlying variables (factors). Simultaneously, each factor can be seen as a dependent variable which is a function of the observed variable:

$$F_j = \sum w_{j1} * x_i + w_{j2} * x_2 + ... + w_{jp} * x_p$$

where

---

[69]see section 8.4.1.5.

w_{ij}: factor score coefficients

p: number of variables (Norusis, 1993).

8.4.1.2 Use of Factor Analysis in Market Research

Before proceeding to issues related to the practical application of factor analysis, the way that this type of analysis can be used in market research, and particularly in the context of purchasing involvement for cheese in the Greek market, will be discussed.

The use of factor analysis in market research depends on the researcher's expectations from a set of data. First, FA permits researchers to represent a set of observable variables using a smaller set of underlying variables. As Hair *et al* (1992, p.10) explain, factor analysis "involves finding a way of condensing the information contained in a number of original variables into a smaller set of dimensions (factors) with a minimum loss of information". Then, factors can be used as new variables for further analysis, and "the number of variables for further research can be minimised, while the amount of information in the analysis is maximised" (Stewart, 1981, p.51). Also, cases can be grouped according to their scores on several factors, in what is called Q Factor Analysis (Stewart, 1981).

Second, "if a domain is hypothesised to have certain qualitative and quantitative distinctions, factor analysis can test this hypothesis. Thus, if a researcher has an *a priori* hypothesis about the number of dimensions or factors underlying a set of data, this hypothesis can be submitted to a statistical test" (Stewart, 1981, p.51). In such cases, it is said that factor analysis is used in a confirmatory way (Hair *et al*, 1992 ; Tabachnick and Fidell, 1989).

Third, FA can be applied in early steps of research, when there is no information or rigorous theoretical background regarding underlying dimensions in a research domain. FA is then used in an exploratory way to reveal existing dimensions (Tabachnick and Fidell, 1989; Stewart, 1981).

In this research, though there is a rigorous theoretical general background regarding purchasing involvement and the identification and measurement of involvement forms and facets, still, a background specific to the cheese market in Greece does not exist.

Therefore, factor analysis will be used in an exploratory way, as facets of involvement can vary for different markets and products (Laurent and Kapferer, 1985; Dimanche *et al*, 1991). Irrespective, proceeding to factor analysis, is meaningful only if:

a) the number of factors identified at the end is much smaller than the number of the initially observed variables; and

b) if the solution provided by the factor analysis is interpretable and meaningful from a theoretical point of view; that is, if the factors represent the theoretical constructs (i.e., latent variables) which the researcher is attempting to address.

The practical application of factor analysis is discussed in the following sections.

8.4.1.3 Techniques for Utilising Factor Analysis

In the Table 8.5 (see next page), adopted by Tabachnick and Fidell (1989) a summary of factor extraction procedures is presented. A review of literature related to consumer behaviour reveals that Principal Component Analysis (PCA) and Principal Factor Analysis (PFA)[70] are mostly used in an exploratory way to identify and measure involvement profiles (Mittal, 1989a; Laurent and Kapferer, 1985; Dimanche *et al*, 1991).

The greatest difference between PCA and PFA concerns the type of variance the extraction of factors depends upon. More specifically, in PCA, factors derived are based on total variance that may comprise three elements:

i) common variance, or communality, that is, the variance shared with all other variables in the analysis;

ii) specific variance, that is, the variance associated with only a specific variable;

iii) and error variance that is resulting from unreliability in the data-gathering process[71] (Hair *et al*, 1992).

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[70] Called Principal Axis Factor Analysis in SPSS/PC+ (Norusis, 1993).

[71] Measurement errors are not uncommon in market research (Morton-Williams, 1986). As Dimanche *et al* (1991, p.58) explain "a respondent may vacillate between selecting a '1' (strongly disagree) or a '2' (disagree) on a particular item before finally deciding on a response".

In PFA, factor extraction is based only on common variance[72]; otherwise, the processes are similar in both PCA and PFA.

Concerning terminology, while PCA produces components, PFA produces factors. Still, in most cases, researchers use the label 'factors' for either PCA of PFA (Tabachnick and Fidell, 1989). For reasons of simplicity, this parlance will be adopted in this research.

Table 8.5 Summary of Factors Extraction Procedures

Extraction Technique	Goal of Analysis	Special Features
Principal Components (PCA[73])	Maximise variance extracted by components.	Mathematically determined, empirical solution with common, unique, and error variance mixed into components.
Principal Factors (Factor Analysis)	Maximise variance extracted by factors.	Estimates communalities to attempt to eliminate unique and error variance from factors.
Image Factoring	It distributes among factors the variance of an observed variable that is *reflected* by the other variables.	Uses Squared Multiple Correlations between each variable and all others as communalities to generate a mathematically determined solution with error variance and unique variance eliminated.
Maximum Likelihood Factoring	Estimate factor loadings for population that maximise the likelihood of sampling the observed correlation matrix.	Has significance test for factors; especially useful for confirmatory factor analysis.
Alpha factoring	Maximise the generalizability of factors.	Somewhat likely to produce communalities larger than 1.
Unweighted least squares	Minimise squared residual correlations.	
Generalised least squares	Weights variables by shared variance before minimising squared residual correlations.	

Source: Adopted by Tabachnick and Fidell (1989, p.624).

[72] "the diagonals of the correlation matrix are replaced by estimates of the communalities; at the first step, squared multiple correlation coefficients can be used as initial estimates of the communalities"(Norusis, 1993, p.60).

[73] Some authors (e.g., Manly, 1992) comment that PCA differs from other factor analysis techniques because it is not based on any particular statistical model, whilst factor analysis is based on a rather special model (see Section 8.4.1.1).

Regarding choice between PCA and PFA, researchers need to consider the pros and cons of the two analyses. PCA extracts maximum variance from the data set for each component and is appropriate for researchers that want an empirical summary of the data set. PFA gives a theoretical solution uncontaminated by unique and error variability and conforms to the factor analytic model. Still, "as the goal in factor analysis is to maximise variance extracted, PFA is not as good as other extraction techniques in reproducing the correlation matrix" (Tabachnick and Fidell, 1989, p.626). Furthermore, in PFA, communalities must be estimated and the solution is determined, to some extent, by these estimates. It is stated, however, that "the seriousness with which estimates of communality should be regarded depends on the number of observed variables" (ibid., p.634). Tabachnick and Fidell (1989) provide a 'rule of thumb' whereby if the number of observed variables is at or about 20, then, reasonable estimates of communalities likely can be calculated. Following this 'rule of thumb', the number of observed variables in this research (represented by 10 Likert-type items) would probably provide questionable estimates of communalities. It seems that PCA is adequate for the needs of this research, however, PFA will be conducted as well, in order to confirm the PCA solution.

Maximum Likelihood Factoring (MLF) is also often used by involvement researchers in a confirmatory way, in advance stages of scale testing (i.e., to test certain hypotheses about factor structure). MLF provides significance tests for testing the structure of factors (Zaichkowsky, 1985a; Babin *et al*, 1994), however, it is not considered as appropriate for the stage of scale development in this dissertation.

8.4.1.4 Data Appropriateness

Assuming that there is a common construct underlying the observable variables, an association between them should be observed - in short, there is **correlation** between the observable variables. The strength of this association is indicated by the value of the correlation coefficient. This can take a positive or negative sign, indicating the direction of the relationship, and a value ranging from -1 to +1, showing a perfectly reverse or perfectly positive relationship. Indeed, "the basic assumption of factor analysis is

that underlying dimensions, or factors, can be used to explain complex phenomena. Observed correlations between variables result from their sharing these factors" (Norusis, 1993, p. 48).

Thus, regarding the appropriateness of data for factor analysis, in PCA, the matrix formed by the correlation coefficients between the manifest variables (i.e., observed correlations) is first examined. In this matrix, there are units in the diagonals and "each variable contributes a unit of variance by contributing a 1 to the positive diagonal of the correlation matrix. All variance is distributed to components, including error and unique variance for each observable variable" (Tabachnick and Fidell, 1989, p.624). Relatively large coefficients[74] indicate a strong relationship between the manifest variables and are considered as indicators of the presence of latent variables.

In Principal Factor Analysis, to explore how well the factorial model fits the data, a **reproduced matrix** is examined, in which: the lower left triangle represents reproduced correlations, based on estimated correlations between factors and variables; residuals[75], that is, the difference between the observed correlations and the reproduced correlations are presented in the higher right triangle of the matrix; and reproduced communalities are in the diagonal (Norusis, 1993). Thus, in both Principal Component Analysis and Principal Factors Analysis the variance in each variable that is analysed is presented in the positive diagonal (i.e., the upper triangle) of the correlation matrix (Tabachnick and Fidell, 1989)

It is suggested that measuring the appropriateness of the data for undertaking factor analysis should be the first step in factor analytical procedures (Stewart, 1981; Dimanche *et al*, 1991). Involvement researchers, usually, do not report the results of this first step, with the notable exception of Dimanche *et al* (1991). Various measurements, available in major computer statistical packages, test data for its suitability to be used in factor analysis, viz.: the **Kaiser-Mayer-Olkin (KMO)**

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[74] researchers argue that correlation coefficients larger than 0.30 are required to indicate the likely presence of latent variables (Norusis, 1993).

[75] see section 8.4.1.5.

measure of sampling adequacy, Bartlett's test of sphericity; the partial correlation coefficient; and the anti-image correlation.

KMO is an index for comparing the magnitudes of the observed correlation coefficients to the magnitude of the partial correlation coefficients. It is computed as:

$$KMO = \frac{\sum\sum_{i \neq j} r^2_{ij}}{\sum\sum_{i \neq j} r^2_{ij} + \sum\sum_{i \neq j} a^2_{ij}}$$

where:

r_{ij} is the simple correlation coefficient between variables i and j,

a_{ij} is the partial correlation coefficient between variables i and j.

The value of KMO has been interpreted by one senior researcher as: 0.90+ marvellous; 0.80+ meritorious; 0.70+ middling; 0.60+ mediocre; 0.50+ miserable; below 0.50 unacceptable (Stewart, 1981). Tabachnick and Fidell (1989) recommend that a KMO greater than 0.60 is required for a 'good' factor analysis.

KMO is reported as a measure of considerable utility and as the best of the methods currently available in statistical software packages (Stewart, 1981). In this dissertation, the KMO value will be used as a measure to assess the 'factorability' of data selected in the quantitative survey.

Hair *et al* (1992, p.226), report that "raw data variables for factor analysis are generally assumed to be of metric measurement", although, they recognise that in some cases non-metric variables can be used. However, Stewart (1981) points out that in market research discrete variables (e.g., user-non user, agree-disagree) are commonly used; Tabachnick and Fidell (1989) present an example of factor analysis using this type of data. Most importantly for this research, and as Bloch (1981, p. 62) reports, "the ... six-point Likert-type format is the type recommended by Houston and Rothschild (1978) for use in assessing individual differences in product involvement". In such cases, departures from

normality and linearity are often observed[76]. These phenomena can lower correlations between variables and weaken the factor solution. Usually, these problems are not considered as serious by social scientists and data are not transformed accordingly (Tabachnick and Fidell, 1989; Stewart, 1981). In this research, as in all cases of involvement measurement scales reviewed for this dissertation (Bearden, 1993), ordinal data will be factor analysed. Examining the data adequacy is the first step before initiating a factor analysis.

8.4.1.5 Rotation

In an initial factor solution, regardless of the method of extraction that has been used (Tabachnick and Fidell, 1989), the factor matrix indicates the relationship between the factors and the individual variables. Often, it is difficult to interpret this initial matrix. The procedure through which the initial factor matrix is transformed to one that is easier to interpret is called **rotation** (Hair *et al*, 1992; Norusis, 1993).

In the unrotated factor solution, factors are extracted in the order of their importance, that is, the first factor accounts for the largest amount of variance, while the second and subsequent factors are based upon the residual amount of variance. The ultimate effect of rotation is the redistribution of variance from earlier factors to later ones, thus, achieving a more simple and meaningful factor pattern (Hair *et al*, 1992). In Table 8.6, a summary of rotational techniques available in SPSS/PC+ is presented (Tabachnick and Fidell, 1989; Norusis, 1993).

Table 8.6 Summary of Rotational Techniques available in SPSS/PC+.

Rotational Technique	Type	Goals of Analysis
Varimax	Orthogonal	Minimise complexity of factors (simplify columns of loading matrix).
Quartimax	Orthogonal	Minimise complexity of variables (simplify rows of loading matrix).
Equamax	Orthogonal	Simplify both variables and factors (rows and columns); compromise between quartimax and varimax.
Direct Oblimin	Oblique	Simplify factors by minimising cross products of loadings

Source: Tabachnick and Fidell, 1989 and Norusis (1993).

[76]Ordinal data, for example, result in rectangular distribution (Tabachnick and Fidell, 1989).

When factors are supposed to be mathematically independent of each other, the solution is said to be **orthogonal**. In this case, in the geometrical representation of the position of the manifest variables in relation to factors extracted, the factors are represented as axes and the angles between them equal 90 degrees.

In reality, and especially in the social sciences, underlying constructs representing elements of human behaviour may be correlated; in such cases, factors representing these underlying elements can be correlated and, thus, non-orthogonal. With regard to involvement theory, Laurent and Kapferer (1985), and Dimanche *et al* (1991), emphasised the fact that facets of involvement should not be expected to be independent as they represent aspects of the same construct. Similarly, purchasing involvement might not be independent from its antecedents and sources (i.e., its facets). So, the above mentioned researchers proceeded to an **oblique factor** solution. Oblique factor analysis, permitting factors to be correlated, seems more realistic and reasonable in many research cases (Tabachnick and Fidell, 1989) .

Earlier, it was identified that factor loadings are partial regression coefficients and the loadings, also, represent correlations between factors and variables. This does not hold when oblique rotation is used. In oblique rotation, the factor loadings are still partial regression coefficients but, since the factors are correlated, they are no longer equal to the factor-variable correlations. Instead, they are a measure of the unique relationship between the factor and the variable (Tabachnick and Fidell, 1989). As a result, in an oblique rotation solution, two factor matrices are provided: a **factor loading** (or **pattern matrix**) that comprises regression coefficients; and a **factor structure matrix** that comprises factor-variable correlations (Norusis, 1993). A question commonly faced by researchers using oblique rotation is which of the two matrices they should interpret. The problem with the structure matrix is that correlations (i.e., correlations between variables and factors) are inflated by overlap between the factors. As a consequence, factors may be difficult to interpret. In the pattern matrix, the difference between high and low loadings is more apparent and, thus, the interpretation is easier. For this reason, the pattern matrix, rather than the structure matrix is more often reported and interpreted by researchers (Tabachnick and Fidell, 1989; Laurent and

Kapferer, 1985); however, a minority choose to interpret the structure matrix, arguing that this gives a more detailed picture of the relationship between variables and factors (Dimanche *et al*, 1991). For this dissertation, seeking a comprehensive analysis of the trait and discriminant validity of the scales, both structure and pattern matrices will be presented and discussed.

8.5 Validity Analysis of the Scales - Empirical Results

To recapitulate, factor analysis is used to test scale trait and discriminant validity. To have trait validity, a scale should load on one and only one factor, thus, indicating the 'clearness' of the underlying construct initially conceptualised by the researcher. To have discriminant validity, each scale should not load on the same factor as another scale, indicating that the scale captures and measures a unique construct. Variations on this theme can be found. For instance, a scale may load on one factor only, thus having trait validity, but, another scale may load on the same factor as well. In this case, the scale has trait validity but not discriminant validity (Laurent and Kapferer, 1985).

In relation to the factor analytical procedure in this current research, purchasing involvement and three purchasing involvement facets (i.e., cheese importance for the household, self-expression and confidence, and utility due to convenience and price) are latent variables that cannot be directly measured. The items in the measurement scales developed for this dissertation, are the observable variables. The extraction of the underlying and non-directly measurable constructs will be attempted using the values that respondents gave for each observable variable.

Deciding which technique to use in a specific factor analysis depends on the variables and theoretical constructs involved (e.g., assuming independence or not), and on the purposes of the researcher regarding the use of the results (see 8.4.1.2). In this dissertation, the researcher has a dual purpose for using factor analysis:

- to test the trait and discriminant validity of the scales;
- to extract factor scores, that is, the values that latent variables would have received for each of the respondents if they were directly measured. These

factor scores, then, can be used as new variables for subsequent analysis (Chapters 9 and 10).

A review of pertinent literature, suggests that there are no clear cut rules guiding which extraction methods, rotational techniques or factor scores extraction method should be applied in each research case. It seems that only a *post hoc* evaluation of the factor analysis results can help researchers to judge if they followed the right path or not. Also, it should not be a surprise if different researchers select different solutions, especially, when these is a certain amount of ambiguity with respect to what is or what is not the 'best' solution (Tabachnick and Fidell, 1989).

To test the validity of scales developed in this dissertation and, simultaneously to test research hypothesis 1 and 2, and to extract new variables for further analysis, a preliminary and a final factor analysis will be conducted. The scope, statistical procedures followed and results of the analyses conducted are presented and discussed in the following sections.

8.5.1 Preliminary Validity Analysis - Aim and Procedure

A preliminary oblique Principal Component Analysis was undertaken to test trait and discriminant validity for the four scales developed in this dissertation. PCA is considered appropriate because of the exploratory character of this research. The oblique type was selected because, although the concepts involved are hypothesised to be conceptually separate, they are expected to be inter-related as is often the case with different aspects of human behaviour. Similar procedures have been followed by other involvement researchers (Bloch, 1981; Dimanche *et al*, 1991; Laurent and Kapferer, 1985; Mittal, 1989a).

8.5.1.1 PCA - Quality of the Solution Obtained

The quality of a PCA analysis results depends, first, on the quality of the data used. This preliminary PCA will be based on a sample of pooled cases: 300 respondents participated in the survey conducted, yielding 490 cases in total (see Section 7.5.1).

The pooling procedure is followed in order to increase the effective sample size and because the answers given by each respondent concern two different cheese categories. This is a procedure often followed by social scientists (Laurent and Kapferer, 1985; Kapferer and Laurent, 1985; Tabachnick and Fidell, 1989).

Table 8.7 Correlation Matrix for Preliminary PCA.

	PINV1	PINV2	PINV3	EXPR1	EXPR2	EXPR3	EXPR4	IMPR1	IMPR2	IMPR3	UTIL1	UTIL2	UTIL7
PINV1	1.00000												
PINV2	.49549	1.00000											
PINV3	.35054	.30187	1.00000										
EXPR1	-.12882	-.04845	-.23825	1.00000									
EXPR2	-.24008	-.07358	-.22118	.37553	1.00000								
EXPR3	-.10568	.01206	-.18229	.40827	.34477	1.00000							
EXPR4	-.19972	-.07294	-.21807	.27789	.27570	.35896	1.00000						
IMPR1	-.09350	.04059	-.28510	.21493	.25068	.22697	.22284	1.00000					
IMPR2	-.15749	-.01617	-.27203	.27266	.26957	.26535	.21510	.79760	1.00000				
IMPR3	-.14780	-.02273	-.29179	.25660	.26954	.25875	.19332	.74058	.87247	1.00000			
UTIL1	-.12906	-.12277	-.16154	.09577	.11111	.20035	.14721	.22551	.23844	.26165	1.00000		
UTIL2	-.00123	.01330	-.01654	.03682	-.02876	.08740	.07525	.10106	.09240	.13267	.34771	1.00000	
UTIL7	.11864	.14615	.12442	-.04299	-.05509	.03775	.01894	-.05118	-.06280	-.03821	.06198	.34448	1.000

To examine if the data under examination are appropriate for this analysis, first, the correlation matrix for the variables under investigation is considered. This is presented in Table 8.7.

This matrix comprises correlation coefficients between the manifest variables. The variance in the variables, explained by the PCA solution, is shown in the diagonal of the matrix; the line of unities indicates that the factors extracted in the PCA solution explain all the variance, that is, common, unique and error (see section 8.4.1.3). Most variables (10 of 13) included in the analysis demonstrate a correlation coefficient higher than 0.30 with, at least, one other variable; usually, this level is used as a 'rule of thumb' to decide if a variable should be included in the analysis. Furthermore, the KMO test of sampling adequacy is 0.76610. This is above the level of 0.60 that is

required for a good factor analysis (Tabachnick and Fidell, 1989). Therefore it is concluded that the data are appropriate for factor analysis.

Table 8.8. Variance Explained by the Solution Obtained from the Preliminary PCA

Variable	Communality	Factor	Eigenvalue	Pct of Var.	Cum Pct
PINV1	.65493	1	3.64108	28.0	28.0
PINV2	.70940	2	1.75924	13.5	41.5
PINV3	.46493	3	1.45877	11.2	52.8
EXPR1	.54645	4	1.35340	10.4	63.2
EXPR2	.49679				
EXPR3	.60142				
EXPR4	.43668				
IMPR1	.81756				
IMPR2	.89572				
IMPR3	.86303				
UTIL1	.48874				
UTIL2	.70629				
UTIL7	.53054				

In the PCA solution, four factors are extracted, using the latent root criterion. That is, only factors that explain variance greater than one are included in the solution. The statistics for this solution are shown in Table 8.8. The first, second, third and fourth factors, explain 28 percent, 13.5 percent, 11.2 percent and 10.4 percent of the total variance respectively. In total, 63.2 percent of the observed variance is explained. The communalities for the variables are also shown in this table. They range from 0.43 to 0.89, indicating the percentage of the variance in manifest variables explained by the common factors - the variance that is not explained is attributed to the unique factor and is called 'the uniqueness of the variable' (Norusis, 1993).

Is 63 percent of observed variance explained an acceptable solution?: "in the hard sciences the factoring procedure usually should not be stopped until the extracted factors account for at least 95 percent of the variance or until the last factor accounts for only a small portion (less than 5 percent). In contrast, in the social sciences, where information is often less precise, it is not uncommon for the analyst to consider a solution that accounts for 60 percent of the total variance (and in some instances even less) as a satisfactory solution" (Hair *et al*, 1987, p.237). Thus, the

solution provided by this preliminary PCA is considered acceptable - from a statistical point of view. The theoretical interpretation of this solution is examined in the next session.

8.5.1.2 Interpretation of the Solution

It is hypothesised that purchasing involvement and certain purchasing involvement facets (underlying constructs) are separate constructs that can be identified and measured as such (Chapter 5). Measurements on Likert-type statements (manifest variables) have been obtained. One principal objective of this preliminary PCA is to identify if there are underlying constructs. It is expected that the manifest variables, measuring the same underlying construct, will load on the same factor; that is, they will demonstrate trait validity. Also, scales measuring different constructs will not load on the same factor; that is, indicating discriminant validity.

According to the above, four factors were expected to emerge from this analysis, one for each measurement scales and, indeed, they did (see Table 8.8). For research hypothesis 1 and 2 to be confirmed, it would be expected that PINV1, PINV2 and PINV3 shall load on the same factor, UTIL1, UTIL2 and UTIL7 on a second, EXPR1, EXPR2, EXPR3, EXPR4 on a third, and IMPR1, IMPR2, IMPR3 on a fourth[77].

The oblique PCA provides two matrices: a pattern matrix and a structure matrix. These are presented in the following sections. Their interpretation will lead to conclusions about the trait and discriminant validity of the scales under examination and will lead to conclusions about this research hypotheses 1 and 2.

8.5.1.2.1 Factor Matrix

The preliminary, oblique PCA provided four factors. The pattern matrix provided by this solution represents the unique contribution of each factor to the variance in the variables. Any overlapping variance among factors is partialled out. It is reported that

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[77] it is not implied here that the expected factors would rise with this sequence.

this happens at the expense of conceptual simplicity (Tabachnick and Fidell, 1989). Still, the pattern matrix in this analysis (see Table 8.9) shows a very clear solution.

Table 8.9 Pattern Matrix of the Preliminary PCA Solution

	Factor 1	Factor 2	Factor 3	Factor 4
IMPR2	.94473	.02955	-.00684	.02181
IMPR3	.92457	.01266	.04140	.00653
IMPR1	.91475	.07508	.00229	.00422
PINV2	.14245	.86954	-.01528	.10274
PINV1	.04365	.79320	.00312	-.09661
PINV3	-.20743	.54065	.03965	-.15923
UTIL2	.04883	-.03412	.83805	-.04380
UTIL7	-.15622	.24358	.66663	.06693
UTIL1	.20939	-.25951	.58110	.01011
EXPR3	-.00233	.10018	.10338	.77486
EXPR1	.01906	.03082	-.07429	.74056
EXPR2	.05640	-.07384	-.13183	.66147
EXPR4	-.04411	-.09363	.09995	.63567

Indeed, IMPR2, IMPR3 and IMPR1, that is, the importance measurement scale items, load on the same factor - showing trait validity. Perceived importance of the product, conceptualised as a purchasing involvement facet, can be separately identified and measured. An examination of the loadings of these items[78] show that they do not load in the same way on any other factor. The same hold for the other three scales: PINV1, PINV2 and PINV3 load on the second factor; UTIL1, UTIL2 and UTIL7 on the third factor; and EXPR1, EXPR2, EXPR3 and EXPR4 on a fourth.

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[78] "As a rule of thumb, only variables with loadings of .30 and above are interpreted. The greater the loading, the more the variable is a pure measure of the factor. Comrey (1973) suggests that loadings in excess of .71 are considered excellent, .63... very good, .55 ... good, .45 ... fair, and .32...poor" (Tabachnick and Fidell, 1989).

8.5.1.2.2 Factor Structure

The structure matrix in an oblique solution shows the correlations between variables and factors. Its interpretation is considered less straight forward than that for the pattern matrix. This is because, in the structure matrix, the correlations between variables and factors are inflated by overlap between the factors. For example, consider a variable Z loading on Factor A. A high correlation between variable Z and Factor A, may be observed not because variable Z is directly correlated with Factor A, but because another factor (e.g., Factor B) is correlated with Factor A (Tabachnick and Fidell, 1989).

In the structure matrix presented in Table 8.10, correlations between variables and the factors are generally 'clean', as few items tend to be highly correlated with more than one factor. Interpretation of the analysis indicates trait and discriminant validity for all four scales.

Table 8.10 Structure Matrix of the Preliminary PCA Solution.

	Factor 1	Factor 2	Factor 3	Factor 4
IMPR2	.94585	-.16659	.07861	.34886
IMPR3	.92795	-.17511	.12346	.33380
IMPR1	.90122	-.11116	.08478	.31208
UTIL2	.00114	.81923	.02612	-.02649
UTIL7	-.15099	.80424	.01804	-.24361
UTIL1	-.36978	.61630	.02149	-.34019
PINV2	.11390	-.01513	.83802	.04765
PINV1	-.12340	.27736	.66406	.01526
PINV3	.31662	-.29023	.59415	.18389
EXPR3	.26011	-.05580	.16769	.76179
EXPR1	.26784	-.12668	-.01249	.73501
EXPR2	.29340	-.22405	-.07558	.68596
EXPR4	.20816	-.21267	.14483	.64731

As a result, even if the 'utility due to convenience and price' scale did not demonstrate enough reliability to be used in subsequent analyses, there is evidence that a separate underlying construct exists, that is, a purchasing involvement facet, related to utility due to convenience and price exists. A more profound analysis of trait and discriminant validity for the three, considered more reliable scales, will be based on the results of the Final PCA and PFA.

8.5.1.3 Relationship Between Purchasing Involvement and Purchasing Involvement Facets

An examination of the correlations between factors extracted from this preliminary analysis justifies this researcher's decision to conduct an oblique, rather than an orthogonal, PCA (see Table 8.11). Other researchers hold the view that, if correlations between factors exceed .30, then, an oblique rotation is considered as more appropriate - unless there are compelling reasons for an orthogonal one (Tabachnick and Fidell, 1989).

Table 8.11. Correlation Matrix of the Factors Extracted by the Preliminary PCA

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1.00000			
Factor 2	-.20271	1.00000		
Factor 3	.08785	.02375	1.00000	
Factor 4	.35318	-.20507	.08020	1.00000

From Table 8.11, it seems that Factor 4 - representing self-expression and confidence- correlates positively with Factor 1 - representing cheese importance for the household, and negatively with Factor 2 - representing purchasing involvement. Also, there is a negative correlation between Factor 1 and Factor 2. The nature of these relationships, however, will be examined in more detail when interpreting the Final PCA and PFA (Section 8.5.2).

8.5.1.4 Epilogue

The results from the Preliminary PCA show that four constructs related to purchasing involvement can be identified: purchasing involvement, perceived importance of cheese; self-expression and confidence; and perceived utility through the product choice. Because the scale measuring utility due to convenience and price did not demonstrate enough reliability, it will not be included in the subsequent analysis.

8.5.2 Validity Analysis of the Final Scales

8.5.2.1 Final PCA - Quality of the Solution Obtained

A procedure similar to that followed in the preliminary PCA is followed in this section. In the correlation matrix (see Table 8.12), most variables (8 out of 10) included in the analysis demonstrate a correlation coefficient higher that 0.30 with, at least, one other variable. Furthermore, the KMO test of sampling adequacy is 0.78389. Therefore, the data can be considered appropriate for factor analysis.

Table 8.12. Correlation Matrix for Final PCA

	PINV1	PINV2	PINV3	EXPR1	EXPR2	EXPR3	EXPR4	IMPR1	IMPR2	IMPR3
PINV1	1.00000									
PINV2	.48994	1.00000								
PINV3	.34645	.30413	1.00000							
EXPR1	-.13959	-.04174	-.23034	1.00000						
EXPR2	-.23959	-.07294	-.21506	.38127	1.00000					
EXPR3	-.11289	.01292	-.17661	.41482	.36446	1.00000				
EXPR4	-.20377	-.06962	-.21518	.29406	.28397	.36460	1.00000			
IMPR1	-.11121	.04053	-.28076	.22401	.24503	.22739	.22594	1.00000		
IMPR2	-.17168	-.02105	-.26375	.27266	.28483	.28094	.21606	.77680	1.00000	
IMPR3	-.16387	-.02422	-.28881	.26314	.27062	.26365	.19743	.74334	.86190	1.00000

In the final PCA solution, three factors are extracted, using the latent root criterion; that is, only factors that explain variance greater than one are included in the Solution. The statistics for this solution are shown in Table 8.13. The first, second, and third factors, explain 35.1 percent, 16.6 percent, and 13.5 percent, respectively, of the variance. 65.2 percent of the observed variance is explained. The communalities for the

variables are also shown in this table. They range from 0.43 to 0.87, indicating the percentage of the variance of the manifest variables explained by the common factors.

Table 8.13. Variance Explained by the Solution Obtained from the Final PCA

Variable	Communality	Factor	Eigenvalue	Pct of Var.	Cum Pct
PINV1	.67669	1	3.51140	35.1	35.1
PINV2	.71871	2	1.65852	16.6	51.7
PINV3	.47382	3	1.35266	13.5	65.2
EXPR1	.54469				
EXPR2	.48458				
EXPR3	.60761				
EXPR4	.43994				
IMPR1	.81742				
IMPR2	.88842				
IMPR3	.87070				

Given the above, the solution provided by this preliminary PCA is considered acceptable - from a statistical point of view. The theoretical interpretation of this solution will be examined in the next session.

8.5.2.1.1 Interpretation of the Final PCA Solution

The aim of this analysis was to test the three more reliable measurement scales trait and discriminant validity. Thus, it is hypothesised that purchasing involvement and certain purchasing involvement facets (underlying constructs) are separate constructs that can be identified and measured as such. It is expected that the manifest variables measuring the same underlying construct, will load on the same factor, demonstrating trait validity. Also, they will not load in the same way on two different factors, demonstrating, thus, discriminant validity. In the same way as in the Preliminary PCA solution interpretation, the factors pattern and structure matrices, and also correlation among factors extracted will be analysed.

8.5.2.1.1.1 Factor Pattern

The Final, oblique, PCA resulted three factors. The pattern matrix provided by this analysis (see Table 8.14) shows a very clear solution, in accordance with the one that was expected by the researcher. IMPR2, IMPR3 and IMPR1, that is, the importance measurement scale items, load on the same factor - trait validity. Perceived importance of the product - conceptualised as a purchasing involvement facet, can be separately identified and measured. An examination of these items loading show that they do not load in the same way on any other factor.

Table 8.14. Pattern Matrix of the Final PCA Solution

	Factor 1	Factor 2	Factor 3
IMPR2	.93757	-.00839	.00938
IMPR3	.93417	-.02179	-.01278
IMPR1	.91632	.03827	-.01884
PINV2	.11667	.87107	.11991
PINV1	.00073	.80256	-.07641
PINV3	-.21729	.56793	-.12036
EXPR3	-.00320	.12518	.79857
EXPR1	.00184	.02609	.74263
EXPR2	.03528	-.08590	.65769
EXPR4	-.03909	-.07883	.65564

The same holds for the other two scales. PINV1, PINV2 and PINV3 load on the second factor, and EXPR1, EXPR2, EXPR3 and EXPR4 on the third. Correlations between the items and the factors is be more closely examined in the structure matrix, in the following section.

8.5.2.1.1.2 Factor Structure

In the structure matrix of the factors extracted from the Final PCA solution, and presented in Table 8.15, correlations between variables and the factors are generally clean - demonstrating trait and discriminant validity for the three measurement scales.

Table 8.15. Structure Matrix of the Final PCA Solution

	Factor 1	Factor 2	Factor 3
IMPR2	.94247	-.16128	.36627
IMPR3	.93284	-.16925	.34577
IMPR1	.90303	-.10499	.31974
PINV2	.02195	.82593	-.02750
PINV1	-.15732	.81925	-.25266
PINV3	-.35423	.62936	-.32756
EXPR3	.27908	-.04995	.76982
EXPR1	.27887	-.13755	.73759
EXPR2	.29816	-.23623	.68994
EXPR4	.22188	-.21675	.65818

Interestingly, Factor 3 representing self-expression and confidence is correlated with Factor 1, representing perceived importance of cheese for the household. A more careful examination of the individual item correlations shows that the items EXPR3, EXPR1 and EXPR2 - representing 'confidence about the product purchased' - provides a higher correlation with the first factor than does the EXPR4-sign value item. This is interpreted by the researcher as showing that a good quality product - trusted from the purchaser's perspective (EXPR1) - is related to the product's perceived importance for the household, that is, cheese is an important foodstuff for the household (IMPR2); the purchaser buys the product that makes her feel more confident (EXPR2) and knowledgeable about her choice (EXPR3).

Furthermore, the item PINV3 in the purchasing involvement scale, indicating that a good choice is not important, is negatively correlated with the first-perceived importance, factor (-0.35). This seems intuitively correct, as the purchaser buys casually a product that she does not consider important for her household. The same direction is observed between this item and the fourth-self-expression and confidence, factor (-0.33). A buyer who is not keen on cheese purchasing, for instance, might not consider the choice of a good cheese product as particularly important. Because, here, the buyer's and not the consumer's behaviour is being analysed, it should be made clear

that non-interest from the purchaser's part might mean that cheese is not an important foodstuff for the whole household.

EXPR4, expressing social reward for a good choice is negatively correlated with the second factor, representing no interest in purchasing involvement. To be rewarded seems to be, and in accordance with the theoretical findings (Mittal and Lee, 1989), a factor that could trigger buyers' interest in the purchase.

8.5.2.1.2 Relationship Between Purchasing Involvement and Purchasing Involvement Facets

From Table 8.16, it seems that there is a positive correlation between the first factor - product importance and the third factor - self-expression and confidence; while a negative relationship between self-expression and confidence and no interest in the purchase is not surprising.

Table 8.16. Correlations Between the Factors Extracted from the Final PCA Solution

	Factor 1	Factor 2	Factor 3
Factor 1	1.00000		
Factor 2	-.16087	1.00000	
Factor 3	.37869	-.21995	1.00000

Still, a more detailed analysis of correlations between items and factors was included in the previous section. Table 8.16 is presented here only to justify the researcher's choice of an oblique and non - orthogonal final PCA.

8.5.2.1.3 Epilogue

The Final PCA showed that the three more reliable scales measuring purchasing involvement, and two facets of purchasing involvement, viz.: perceived importance and self-expression and confidence, demonstrate also trait and discriminant validity. Unfortunately, no other scales measuring these constructs are available for the market and product under consideration. Therefore, these results cannot be compared with

other measurements. As a result the convergent validity (see 5.5.3.1) for the scales cannot be tested. However, the three scales developed here seem good enough to be used for extracting values on the underlying constructs under consideration. Factor scores obtained from the Final PCA will be used in subsequent chapters for further analyses (see Chapters 9 and 10).

8.5.2.2 PFA - Quality of the Solution Obtained

The PFA will be based on the same set of data as the Final PCA. It has already been shown by examining the KMO that these data are appropriate for factor analysis. At this stage, to examine how well the factorial model fits the data, the reproduced correlation matrix will be examined (Table 8.17).

Table 8.17. The Reproduced Correlation Matrix Obtained through PFA.

	PINV1	PINV2	PINV3	EXPR1	EXPR2	EXPR3	EXPR4	IMPR1	IMPR2	IMPR3
PINV1	.51609*	-.00140	-.01039	.02500	-.02886	.00844	-.01529	.00576	-.00786	.00244
PINV2	.49134	.52048*	.01105	-.00955	.01716	-.01201	.01349	.01923	-.01123	-.00478
PINV3	.35684	.29309	.29440*	-.02195	.01737	.01235	-.01195	-.03689	.03102	.00007
EXPR1	-.16459	-.03219	-.20839	.38490*	.02573	-.00281	-.02393	-.01514	.00283	.00666
EXPR2	-.21073	-.09010	-.23242	.35554	.33720*	-.01315	-.01656	-.00157	.00229	.00014
EXPR3	-.12133	.02493	-.18896	.41763	.37761	.46086*	.02626	-.01615	.01031	.00808
EXPR4	-.18848	-.08311	-.20323	.31799	.30054	.33834	.26890*	.02905	-.00982	-.01846
IMPR1	-.11697	.02130	-.24388	.23915	.24660	.24354	.19688	.68603*	-.00075	-.00793
IMPR2	-.16382	-.00983	-.29477	.26983	.28254	.27063	.22588	.77754	.88353*	.00752
IMPR3	-.16631	-.01944	-.28888	.25648	.27048	.25557	.21590	.75126	.85438	.82647*

In this table, the lower left triangle represents reproduced correlations, based on estimated correlations between factors and variables; residuals[79], that is, the difference between the observed correlations, and the reproduced correlations, are in the higher right triangle; and reproduced communalities are in the diagonal (Norusis, 1993).

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[79]"In a 'good' Factor Analysis, the numbers in the residual correlation matrix are small because there is little difference between the original correlation matrix and the correlation matrix generated from factor loadings" (Tabachnick and Fidell, 1989, p. 612).

As it is indicated by SPSS/PC+ , there are no residuals (above the diagonal) with absolute values greater than 0.05. This shows that the data set fits the factorial model well (Norusis, 1993). The theoretical solution produced by the PFA (as opposed to the empirical solution of the Final PCA) is uncontaminated by unique and error variability (Dimanche *et al*, 1991; Tabachnick and Fidell, 1989).

Table 8.18. Variance Explained by the Solution Obtained from the PFA

Variable	Communality	Factor	Eigenvalue	Pct of Var.	Cum Pct
PINV1	.51609	1	3.14240	31.4	31.4
PINV2	.52048	2	1.21012	12.1	43.5
PINV3	.29440	3	.82634	8.3	51.8
EXPR1	.38490				
EXPR2	.33720				
EXPR3	.46086				
EXPR4	.26890				
IMPR1	.68603				
IMPR2	.88353				
IMPR3	.82647				

The solution obtained is similar to that of the Final PCA (Table 8.18). Three factors were extracted. The common variance accounted for by the three factors solution was 31.4, 12.1 and 8.3 percent respectively. Communalities ranged from .29 to .88.

8.5.2.2.1 Interpretation of the PFA

8.5.2.2.1.1 Factors Pattern

The pattern matrix given by the PFA solution is similar to the corresponding Final PCA pattern matrix (Table 8.19, see next page) and, therefore, further detailed discussion is not appropriate (see 8.5.2.1.1).

Table 8.19. Pattern Matrix of the PFA Solution

	Factor 1	Factor 2	Factor 3
IMPR2	.94524	-.00095	-.01158
IMPR3	.91709	-.01622	-.02383
IMPR1	.83380	.04301	.00313
PINV2	.07889	.75047	.10807
PINV1	-.00856	.68921	-.08020
PINV3	-.16874	.39842	-.15161
EXPR3	-.02479	.10542	.71278
EXPR1	-.00163	.01609	.62560
EXPR2	.03664	-.07432	.53642
EXPR4	-.00402	-.06896	.49648

8.5.2.2.1.2 Factors Structure

The structure matrix in the PFA solution is similar (Table 8.20). Therefore, the interpretation of the relationships between variables and factors is basically the same as in Section 8.5.2.1.1.

Table 8.20. Structure Matrix of the PFA Solution

	Factor 1	Factor 2	Factor 3
IMPR2	.93991	-.17502	.43826
IMPR3	.90880	-.18149	.41700
IMPR1	.82722	-.11436	.38737
PINV2	-.17605	.71382	-.28191
PINV1	-.01054	.70467	-.06961
PINV3	-.31561	.47356	-.34611
EXPR3	.29443	-.09432	.67076
EXPR1	.29289	-.16300	.62021
EXPR2	.30572	-.23502	.57516
EXPR4	.24506	-.21058	.51434

8.5.2.2.2 Relationship Between Purchasing Involvement and Purchasing Involvement Facets

The correlation between the factors extracted by the PFA are presented in Table 8.21. Again, the selection of an oblique instead of an orthogonal solution is justified.

Table 8. 21. Correlations Between the Factors Extracted by the PFA.

	Factor 1	Factor 2	Factor 3
Factor 1	1.00000		
Factor 2	-.18766	1.00000	
Factor 3	.47561	-.28676	1.00000

8.5.2.2.3 Epilogue

The good fit of the theoretical solution that the PFA provides and the agreement between this and the Final PCA solution gives more evidence in relation, first, to the validity of the scales developed and tested in this dissertation and, second, to the first and second hypothesis tested in this research.

8.6 Overview of the Results and Conclusions

For the scope of this research, that is, investigating purchasing behaviour for cheese in Greece, hypotheses have been constructed to test the validity of involvement theory for the product and market under consideration. The first research hypothesis was related to our ability in identifying purchasing involvement for cheese as a separate construct. The second hypothesis concerned the identification of purchasing involvement facets, such as: importance, self-expression and confidence, and utility due to convenience and price.

The identification of these constructs, and the subsequent acceptance or rejection of the first and second hypotheses, required the development of measurement scales. The trait validity of these scales would justify the suggestion that the above-mentioned constructs are separate concepts that can be identified as such. The discriminant validity and reliability of scales, would confirm that these constructs are measured

efficiently and that the results of these measurements are good enough to be used in subsequent analyses.

Cronbach's coefficient alpha, PCA and PFA were used as main statistical tools for testing the above[80]. Three of the scales developed were showed to be reliable and valid. Therefore, data collected using these scales can be used for further analyses. The fourth scale did not demonstrate sufficient reliability. However, in a preliminary empirical analysis, it did show trait and discriminant validity and, therefore, deserves closer examination in future analyses.

To conclude, buyer involvement with cheese purchasing can be identified and measured in the Greek market (according to data gathered in the area of Athens). Furthermore, purchasing involvement facets such as cheese importance for the household and self-expression and confidence can also be identified as separate constructs, and can be measured as such. Consequently, the first and second hypotheses of this research can be accepted.

The Final PCA resulted in a new set of data (factor scores) for a new set of variables, that is, buyer involvement with cheese purchasing, importance of cheese for the household, and self-expression and confidence. Using this new set of data and variables, this researcher will attempt to explore the usage of these new variables in segmenting the market (Chapters 9 and 10).

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[80] For a justification of the sequence with which reliability and validity analyses occurred in this dissertation see Appendix 6.

CHAPTER 9. PRODUCT PURCHASING INVOLVEMENT PROFILES - THE CASE OF THREE CHEESE CATEGORIES IN THE MARKET OF ATHENS, GREECE.

9.1 Introduction

In Chapter 8, three scales for measuring cheese buyer interest in cheese purchasing (i.e., purchasing involvement) and purchasing involvement facets (i.e., perceived importance of the product for the household, and buyer's self-expression and confidence) were accepted as reliable and valid. The Final Principal Components Analysis carried out in that chapter resulted in the derivation of three new variables representing the three concepts mentioned above. The same analysis generated a data set for these variables (i.e., factor scores). These scores represent values for a sample of 490 cases (i.e., cheese buyer responses for five cheese categories). Of these, 215 cases represent answers for Feta cheese, while 132, 91, 18 and 34 represent responses for Hard, Soft, Graviera and Kaseri cheeses, respectively.

In this chapter, the way that these newly developed variables can be used for describing the cheese market in Athens, focusing on the products rather than on the buyers will be demonstrated. In doing so, **Product Purchasing Involvement Profiles (PPIP)** will be constructed and interpreted. The implications of such profiles for cheeses marketing management will be discussed.

9.2 Purchasing Involvement Profiles for Three Cheese Categories in Athens.

Laurent and Kapferer's (1985) recommendations to use 'involvement profiles' for market segmentation, instead of 'involvement' *per se* (see Chapter 4), have been adopted in the development of purchasing involvement and purchasing involvement facet scales (Chapter 5, Section 5.2). The reader is reminded that, by using purchasing involvement, the buyer's involvement with the purchase, and not the consumer's involvement with the product, can be addressed. In short, the Product Purchasing Involvement Profiles (PPIP) for the three cheese categories constructed in this chapter are combinations of:

- purchasing involvement;
- perceived importance of a cheese category for the household;
- and self-expression and confidence.

9.2.1 An Overview of Purchasing Involvement Profiles for Five Cheese Categories

A graphical representation of Purchasing Involvement and Purchasing Involvement Facets for each one of the five (initially) cheese categories under consideration is presented in Figure 9.1. This figure is based on Table 9.1, where the means of the three variables for each cheese category[81] under examination are reported.

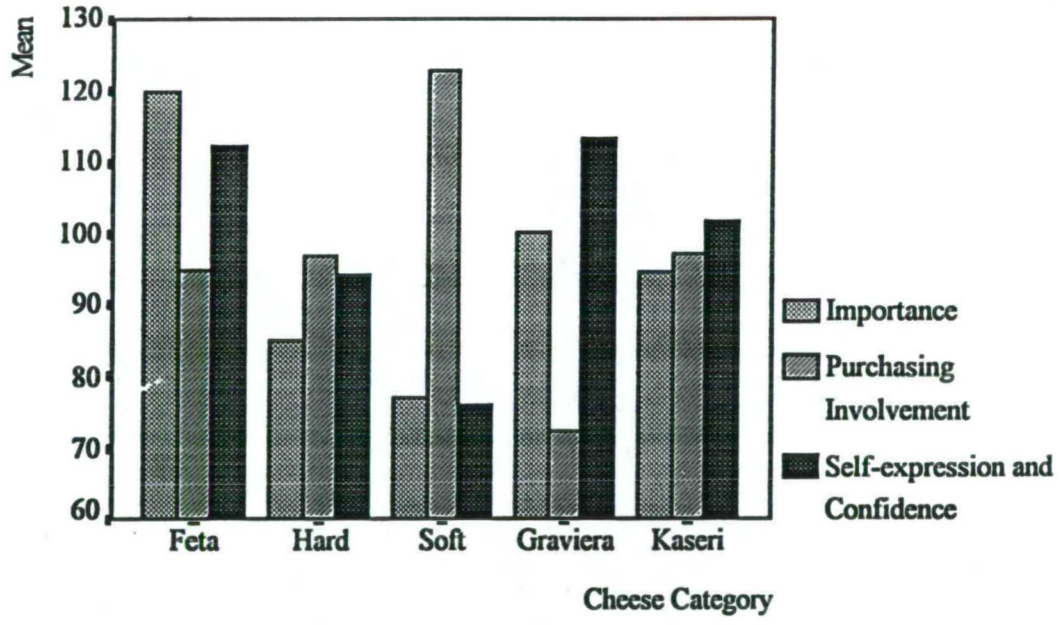


Figure 9.1. Purchasing Involvement Profiles for Five Cheese Categories

Rather than constructing a Purchasing Involvement Profile of cheese as just one product class (i.e., aggregating all the cheese categories under consideration in this dissertation), Purchasing Involvement Profiles for each cheese category are presented

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[81] To facilitate the diagrammatic representation and interpretation of the new variables, their initial values (i.e., standardised factor scores with mean = 0 and standard deviation = 1), for all cheese categories, were transformed so as to have a mean that equals 100 and a standard deviation that equals 50.

separately, with a view to providing marketing managers with more realistic and effective information, for use in new product development and product positioning.

Table 9.1. Average Purchasing Involvement Profiles* for Five Cheese Categories.

	Cheese Category				
	Feta (n=215)	Hard (n=132)	Soft (n=91)	Graviera (n=18)	Kaseri (n=34)
Importance for the Household	119.78 (SE=2.12)	85 (SE=4.95)	77.13 (SE=5.99)	99.99 (SE=8.52)	94.39 (SE=10.06)
Purchasing Involvement	94.97 (SE=3.05)	96.86 (SE=4.20)	122.96 (SE=6.34)	72.52 (SE=8.52)	97.12 (SE=7.89)
Self-expression and Confidence	112.25 (SE=2.85)	94.26 (SE=4.28)	76.07 (SE=6.10)	113.23 (SE=10.70)	101.87 (SE=9.39)

* Mean score for all cheese categories = 100; n = number of cases.
Source: Factor Analysis Scores (Chapter 8).

In this dissertation, Purchasing Involvement Profiles for Feta, Hard and Soft cheeses will be discussed in the following sections[82].

9.2.2 Purchasing Involvement Profile of Feta Cheese

9.2.2.1 Perceived Importance of Feta Cheese for the Household

For the variable perceived importance for the household, the Feta cheese category has a mean of 119.78. According to the descriptive statistics obtained by SPSS/PC+ and the histogram in Figure 9.2, the distribution of this variable is **negatively skewed**[83] (Skewness = -.3.310, SE[84] of Skewness = 0.166).

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[82] Such profiles could not be constructed for Graviera and Kaseri cheeses due to the small numbers of cases available for these cheese categories.

[83] Skewness is 'a measure of the symmetry of a distribution, in most instances, the comparison is made to a normal distribution. A distribution is positively skewed when it contains relatively few large values and it tails off to the right. A negatively skewed distribution is one that has relatively few small values. Skewness values falling outside the range of -1 to +1 indicate a substantially skewed distribution' (Hair *et al*, 1992, p.24).

[84] SE : Standard Error. The standard error is another name for the standard deviation of the sampling distribution of the mean and is calculated as: SE (MEAN) = $\sigma / \sqrt{N}$, where σ is the standard deviation

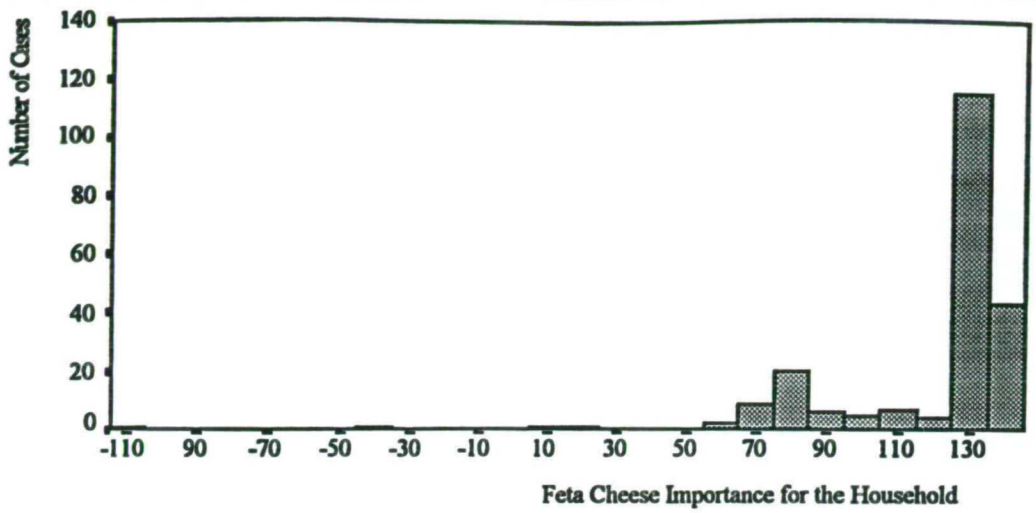


Figure 9.2. Histogram of Perceived Importance of Feta Cheese for the Household

In this case, 'large' values are more frequent than 'small' ones. The reader is reminded that in the scale measuring perceived importance of cheese for the household, large values respond to high perceived importance, whereas low values respond to low perceived importance. If the difference between the proportion of low and high values is statistically significant, then, the clear indication is that for a larger proportion of Feta buyers, in Athens, this type of cheese has relatively high importance to the household. Patently, marketing managers can use this knowledge to make more effective product positioning decisions (see Section 9.2.2.4).

To test the statistical significance of the above, this researcher divided the cases under consideration into two groups:

Group H: Cases that received values higher than the mean - these were assigned a value 2.

Group L: Cases that received values lower than the mean - these were assigned a value 1.

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of the population and N is the sample size. Usually, estimates of the SE are calculated using the standard deviation of a sample.

The statistical test that examines the probability of one case falling into one of two groups is called a **binomial test**[85]. In this test, the null hypothesis (H_o) is that the data come from a binomial distribution with a probability of 50 percent for both groups, the alternative hypothesis (H_1) is that there is a significant difference between the proportion of cases that fall into Group L and the proportion of cases that fall into Group H.

The results of this test are reported in Table 9.2. According to H_o, the ratio of cases falling into Group L and into Group H was expected to be 50:50. According to the observed data, however, this ratio was 21:79. Based on the given set of data and number of cases, the results of the binomial test lead to the rejection of the null hypothesis at the 1 percent significance level and the acceptance of the alternative hypothesis.

Table 9.2. Results of a Binomial Test conducted for Perceived Importance of Feta Cheese for the Household.

Observed and Expected Values	Cases per Value	Probability for Type I Error[86]
Test Prop. = 0.50 Obs. Prop. = 0.7935	Value 2 = 159 Value 1 = 56 Total 215	P= 0.0000

At the 1 percent significance level, there is evidence that most Feta cheese buyers in Athens perceive this cheese category to be important for their household. Other data, emanating from the qualitative and quantitative surveys undertaken for this research can help in interpreting these results.

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[85] When a respondent in sample can take only one of two choices, such as bad or good, yes or no, high or low, it is said that a binomial situation arises (Kempson, 1987).

[86] Type I Error : rejecting the null hypothesis whereas it is true.

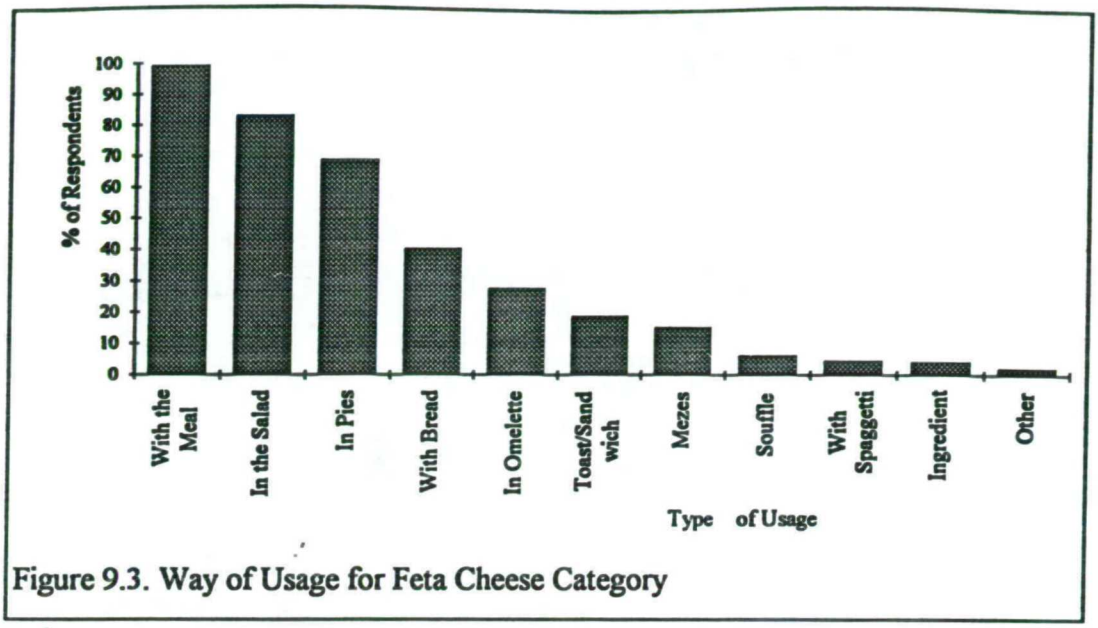


Figure 9.3. Way of Usage for Feta Cheese Category

Indeed, as shown in Figure 9.3 and in Table 9.3, 99 percent of households examined in the quantitative survey (June 1994) consumed Feta with the meal - and in 89 percent of cases, this happened twice or more weekly. In more than 80 percent of households, Feta is consumed in a Greek salad twice or more weekly. Other uses, like 'in pies' and 'with bread', are also popular (69 and 40 percent of the cases, respectively). Further, Feta counts for nearly half of the total quantity of cheese sold by retailers in Athens (Qualitative Survey, February 1994). If high usage corresponds to importance, then, Feta is in the pole position for cheese products!

Table 9.3. Usage and Frequency of Usage for Five Cheese Categories

FETA	With the Meal	In Salad	In Pies	With Bread	In Omelette	Toast/Sandwich	Mezes	Soufflé	With Spaghetti	Ingredient	Other
Usage (%Yes)	99	83	69	40	28	19	15	6	5	4	2
FREQUENCY (%)											
less than once monthly			14	1	2	4	3	13	9	30	40
once every 20 days or month			25	2	10	2	22	13	9	10	
once every 10 or 15 days	1	1	25	13	21	11	24	27	9	10	20
once weekly	3	8	23	21	33	31	35	7	27	20	20
twice or more weekly	89	82	4	58	24	51	8		18	10	20
dont'know/no answer	7	8	8	4	10		8	40	27	20	
HARD CHEESE	With the Meal	In Salad	In Pies	With Bread	In Omelette	Toast/Sandwich	Mezes	Soufflé	With Spaghetti	Ingredient	Other
Usage (%Yes)	57	4	14	27	32	17	53	20	86	28	10
FREQUENCY (%)											
less than once monthly	4		5		2		8	38	1	9	6
once every 20 days or month	1	14			10	11	9	28	1	13	13
once every 10 or 15 days	5	14	41	12	24	22	24	6	6	22	19
once weekly	23	43	36	28	37	33	45	16	39	36	25
twice or more weekly	58	29	18	47	24	26	6		45	9	31
dont'know/no answer	9			14	4	7	7	13	9	11	6
SOFT	With the Meal	In Salad	In Pies	With Bread	In Omelette	Toast/Sandwich	Mezes	Soufflé	With Spaghetti	Ingredient	Other
Usage (%Yes)	33	5	16	37	30	77	12	30	14	52	9
FREQUENCY (%)											
less than once monthly	3		12	3	13	1		22		5	10
once every 20 days or month		20	18		9	2	8	19	7	8	20
once every 10 or 15 days		20	41	5	9	6	31	25	13	32	50
once weekly	22		24	25	41	19	39	28	20	46	10
twice or more weekly	69	60	6	55	25	66	23		60	7	10
dont'know/no answer	6			13	3	5		6			

GRAVIERA	With the Meal	In Salad	In Pies	With Bread	In Omelette	Toast/Sandwich	Mezes	Soufflé	With Spaghetti	Ingredient	Other
Usage (%Yes	67		11	78	28	56	67	33	28	33	
FREQUENCY (%)											
less than once monthly						10	17	50		33	
once every 20 days or month			50		20		33			50	
once every 10 or 15 days			50	7	20		25	33	20	17	
once weekly	17			43	60	70	17		40		
twice or more weekly	83			50		20			40		
dont'know/no answer							8	17			
KASERI	With the Meal	In Salad	In Pies	With Bread	In Omelette	Toast/Sandwich	Mezes	Soufflé	With Spaghetti	Ingredient	Other
Yes	74	13	21	55	18	71	18	32	18	42	5
FREQUENCY (%)											
less than once monthly		50	24			4		50		19	
once every 20 days or month			13			4	29	17		19	
once every 10 or 15 days			63	5		4	43	8		25	
once weekly	25			29	57	30			43	25	40
twice or more weekly	64			62	29	59	29	25	29	13	40
dont'know/no answer	11	50		5	14				29		20

9.2.2.2 Purchasing Involvement for Feta Cheese

For the variable purchasing involvement, for the cases concerning the purchase of Feta cheese, a mean equal to 94.968 is given by the SPSS/PC+ descriptive statistics procedure. In the same results, a skewness of 0.905 (SE of Skewness = 0.166) is reported and, indeed, the distribution of purchasing involvement for Feta cheese seems to be positively skewed (Figure 9.4); that is, the proportion of small values appears to be larger than the proportion of larger values. The reader is reminded that in the scale measuring purchasing involvement, small values respond to high purchasing involvement.

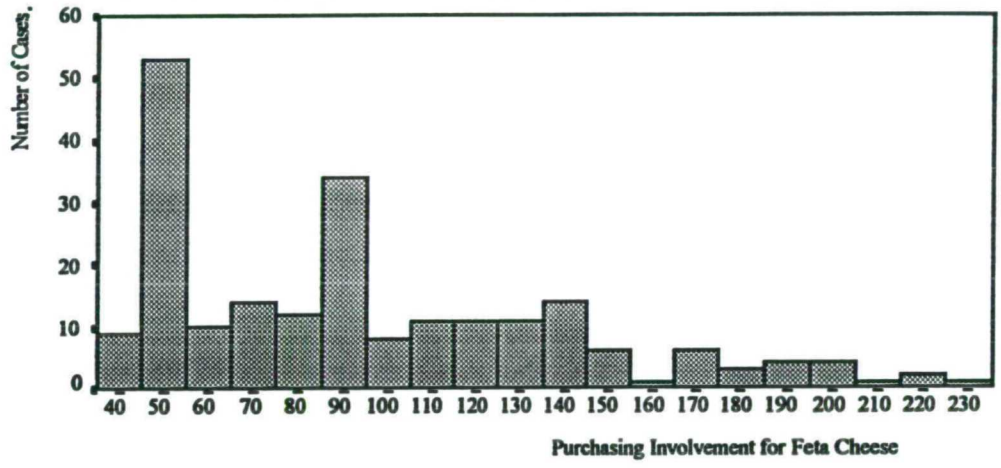


Figure 9.4. Histogram of Purchasing Involvement for Feta Cheese

For the marketing manager, it is important to know if the proportion of small values is significantly different than the proportion of large values. As in the previous section, the cases under examination were divided into two groups.

Group A: High purchasing involvement - cases with values lower than the mean.

Group B: Low purchasing involvement - cases with values larger than the mean.

A value 2 was assigned to cases belonging to Group A and a value of 1 to cases belonging to Group B.

A binomial test was carried out to test the null and alternative hypotheses, viz.:

Null Hypothesis (H_0): There is no significant difference between the proportion of cases that fall into Group A and the proportion of cases that fall into Group B.

Alternative Hypothesis (H_1) : Significantly different proportions of cases fall into Groups A and B.

Given the results of this test, reported in Table 9.4, the alternative hypothesis can be accepted at the 5 percent level of significance. A significantly larger proportion of Feta cheese buyers interviewed belong to Group B - that is, they are more than averagely interested in the purchase of Feta cheese. More particularly, and taking into consideration the statements forming the scale measuring purchasing involvement (Table 8.1), a significant number of these buyers do not consider all Feta cheese found in the market as similar, and it does matter to them which Feta they will choose.

Table 9.4. Results of a Binomial Test conducted for Purchasing Involvement for Feta Cheese.

Observed and Expected Values	Cases per Value	Probability for Type I Error
Test Prop. = 0.50 Obs. Prop. = 0.3860	Value 2 = 132 Value 1 = 83 Total 215	P= 0.0011

This result is not surprising, as most Feta cheese sold in Athens is produced by a large number of small scale dairy enterprises, spread across Greece. Specific methods of production vary by enterprise and geographic area. Further, the taste of a particular Feta cheese can vary during the year, as grass quality and quantity varies through the season (Anifantakis, 1991).

9.2.2.3 Self-expression and Confidence through Feta Cheese Purchase

The mean for the variable self-expression and confidence through purchase for Feta cheese cases is 112.252. In Figure 9.5, the distribution of this variable appears to be negatively skewed, and the SPSS/PC+ descriptive statistics confirm this observation (Skewness -0.845 and SE of Skewness equal to 0.166). That is, the amount of higher-

than-the-mean values seem to be larger than the amount of smaller-than-the-mean values. The reader is reminded that, in the scale measuring this variable, higher values indicate higher self-expression and confidence.

To test if the proportion of responses with higher than the mean values is significantly different than the proportion of responses with lower than the mean values, the cases under consideration were divided into two groups:

Group Y: Cases with values lower than the mean. These were assigned the value 1.

Group Z: Cases with values higher than the mean. These were assigned the value 2.

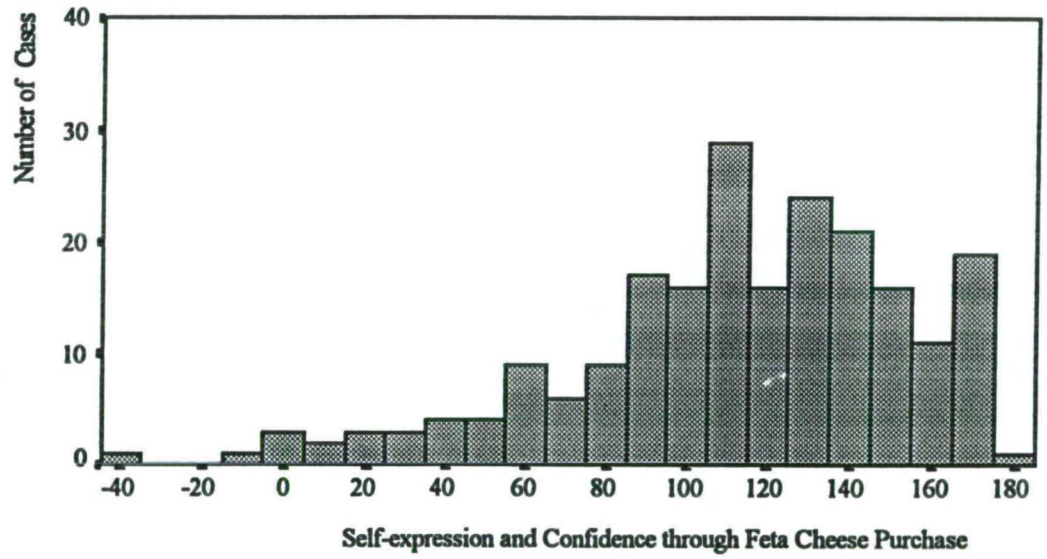


Figure 9.5. Histogram of Self-expression and Confidence through Feta Cheese Purchase

A binomial test was carried out to test the following null and alternative hypotheses:

Null Hypothesis (H_0): There is not a significant difference between the proportion of cases that fall into Group Y and the proportion of cases that fall into Group Z.

Alternative Hypothesis (H_1): There is a significant difference between the proportion of cases that fall into Group Y and the proportion of cases that fall into Group Z.

According to the results of this test (Table 9.5), and given the sample size, the alternative hypothesis can be accepted at the 90% level of significance.

Table 9.5. Results of a Binomial Test conducted for Self-expression and Confidence through the Purchase of Feta Cheese.

Observed and Expected Values	Cases per Value	Probability for Type I Error
Test Prop. = 0.50 Obs. Prop. = 0.5907	Value 2 = 127 Value 1 = 88 Total 215	P= 0.096

Elements related to Feta cheese production and way of consumption can help in interpreting these results. As Figure 9.3 and Table 9.3 show, in 99 percent of the cases, Feta is consumed twice or more weekly either with the meal or in a salad. In both cases, Feta is used raw and poor quality cannot be masked through the use of other ingredients. In these dishes, consumers are very likely to comment on the taste of the Feta cheese itself (personal discussion). Furthermore, Feta cheese is used in pies (69 percent), with bread (40 percent), in omelettes (28 percent) and in toast or a sandwich (19 percent) and can give a piquant, well distinguished taste, that might easily attract a compliment (or indeed, a rebuke).

Given the results of the binomial test, and taken into consideration the items that form the scale measuring this variable (Table 8.1), Feta cheese buyers seem to be quite confident about the quality of Feta they choose; they feel familiar with the various types and qualities available in the market, and they receive positive feedback from those that consume the Feta they buy. If the Feta that is bought is not good, a common expression directed at the housewife used by those consuming it, is that : "This Feta is like plaster" (Qualitative survey findings, February 1994).

9.2.2.4 Managerial Applications

It has been shown that a significantly large proportion of cheese buyers consider Feta to be important to their households; they are aware of the differences between various Feta cheeses found in the market, and are highly involved in the purchase of this

product category. Comments regarding the Feta they choose and the way they use it in preparing meals are directed at them by those that consume this product (i.e., by family members and/or guests).

Given the above, a marketing manager should be perspicacious in choosing the marketing mix for a Feta product. For example, a decision regarding a trade-off between price and quality should be considered very carefully for this cheese category. Buyers might not be willing to buy a lower quality of the cheese that they consider as very important for their household. Also, they might not want to risk receiving negative comments from those to whom they will offer this product. Regarding advertising, a message such as 'we know that Feta is important for your household; brand X will not disappoint you', might make a good use of the Feta cheese Purchasing Profile and lead to an increase in sales of brand X. Also, an effort to justify a higher price might be supported by messages stressing the importance of the product for the household menu, and the reward that the buyer might receive due to the choice of a specific brand. Still, while planning such promotional strategies other factors should also be taken into consideration; for example, a standardised, branded Feta cheese product might lower the self-expression and confidence element. Qualitative research, including in-depth interviews with Feta cheese purchasers, might give further insights into this issue.

Following the same procedure as for Feta cheese, Purchasing Involvement Profiles have been constructed for Hard cheese and for Soft cheese. In the interest of both sparing the reader repetition and of brevity, synopses of the results are presented for these two cheese categories.

9.2.3 Purchasing Involvement Profile for Hard Cheese

9.2.3.1 Perceived Importance of Hard Cheese for the Household

The variable perceived importance of hard cheese for the household was scored by 132 respondents (mean = 85). Analysis revealed that the distribution of the variable was negatively skewed (Figure 9.6) and that cases with large values outnumbered cases with small values.

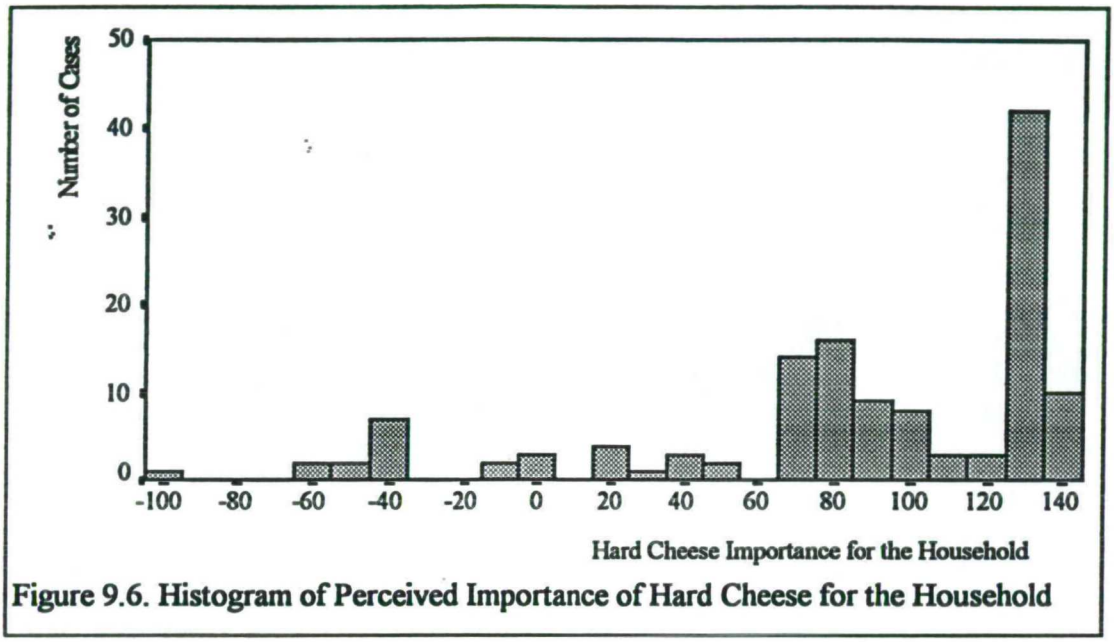


Figure 9.6. Histogram of Perceived Importance of Hard Cheese for the Household

A binomial test was completed (Table 9.6) which, when interpreted, revealed that there is no strong, statistical evidence to show that Hard cheese buyers hold strong positive or negative opinions concerning the importance of this cheese category for their household.

Table 9.6. Results of a Binomial Test Conducted for Perceived Importance of Hard Cheese for the Household.

Observed and Expected Values	Cases per Value	Probability for Type I Error
Test Prop. = 0.50 Obs. Prop. = 0.4318	Value 1 = 57 Value 2 = 75 Total 132	P= 0.1390

Information presented in Table 9.3 and Figure 9.7 sheds additional light on household perceptions of Hard cheese.

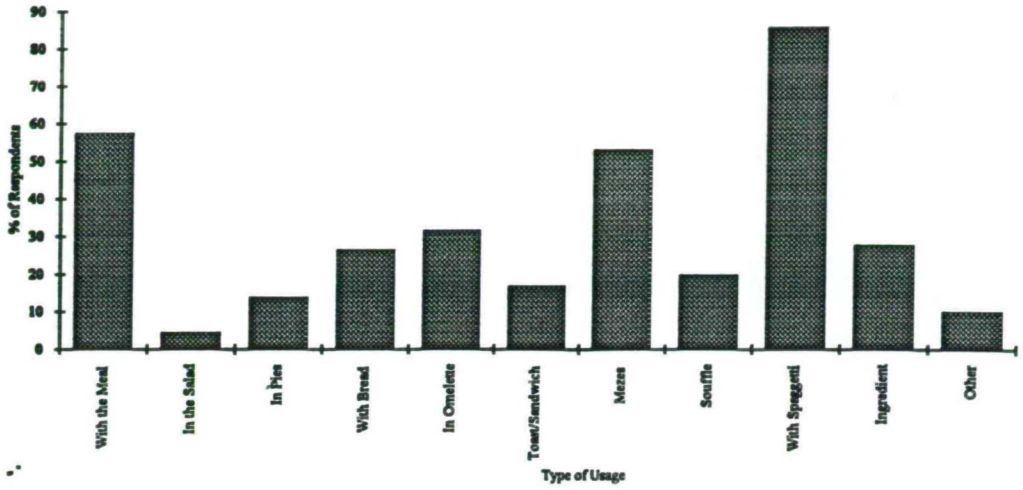


Figure 9.7 Way of Usage for Hard Cheese Category

The most popular way of using Hard cheese is in grated form with spaghetti dishes. Eighty percent of the households consume Hard cheese in this way, while 84 percent of them do so at least once weekly. For another 57 percent of the households under consideration, Hard cheese is consumed as 'mezes', that is, with alcohol (beer, wine or ouzo[87]); for nearly fifty percent of these cases, this way of consumption occurs at least once weekly. One can suspect that: either these meals (i.e., spaghetti dishes, 'mezes'), though frequent, are not considered as important for the households under consideration; or, Hard cheese is not considered as an important component of these meals. Further research on this issue, may give useful insights for more effective promotional strategies, perhaps, in relation to some spaghetti brands (see Managerial Applications in Section 9.2.3.4).

9.2.3.2 Purchasing Involvement for Hard Cheese

Analysis of the variable purchasing involvement for the cases concerning Hard cheese (mean = 96.9) revealed that the distribution was positively skewed (Figure 9.8).

[87] Greek traditional drink with a high alcohol percentage.

Table 9.7. Results of a Binomial Test Conducted for Purchasing Involvement for Hard Cheese.

Observed and Expected Values	Cases per Value	Probability for Type I Error
Test Prop. = 0.50 Obs. Prop. = 0.3939	Value 2 = 52 Value 1 = 80 Total 132	P= 0.0188

The binomial test (Table 9.7) indicates that the alternative hypothesis can be accepted at the five percent significance level. That is, purchasers of Hard cheese perceive that there are differences between the various types of Hard cheese found in the market, and it does matter to them which one they buy. To interpret this result, Table 9.8 should be taken into consideration. Hard cheese is a composite category, that is, it includes responses on more than one cheese type. Indeed, these cases include responses for nine cheese types, with quite similar observable characteristics and way of usage (see Chapters 6 and 7). As can be seen in Table 9.8, both generic and branded cheeses have been included in the Hard cheese category.

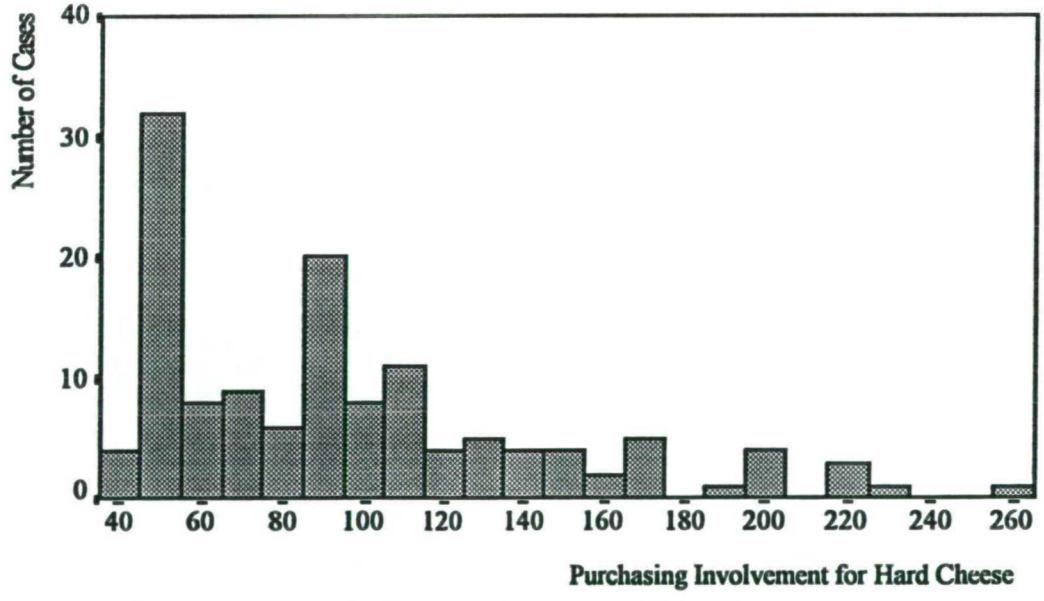


Figure 9.8. Histogram of Purchasing Involvement for Hard Cheese

Table 9.8. Synthesis of Cases included in the Hard Cheese Category

Cheese Types Comprising Hard Cheese Category	Number of Cases	Percentage over Total
Kefalotyri*	46	35
Kefalograviera*	36	27
Hard Mizithra*	4	3
Pecorino*	3	2
Parmezana*	2	1
Kerrygold**	5	4
Reggato**	33	25
Gruyère*	1	1
Hard Cheese-she does not know the type*	2	2
Total	132	100

*Generic
**Brand
Source: Quantitative Survey (June 1994)

Interpretation of this table, plus findings from the qualitative survey (February 1994), support the binomial test results. Reggato (imported branded cheese) for instance, is popular due to its perceived distinctive taste. Kefalotyri, a piquant traditional Greek cheese, is very commonly purchased grated to be used in spaghetti dishes. Kefalograviera is milder than Graviera (a cheese category itself in this dissertation), but, generally available at a lower price. Thus, Kefalograviera cannot only be used raw but also, as an ingredient as well. In short, the qualitative and quantitative results help explain why buyers have reasons to be interested in purchasing Hard cheese. Item by item analysis in Appendix 7 shows that, indeed, for hard cheese, all three items comprising the scale measuring purchasing involvement (Chapter 8) gain a relatively high proportion of low values (i.e., indicating high purchasing involvement).

9.2.3.3 Self-expression and Confidence through Hard Cheese Purchase

The distribution of the variable self-expression and confidence, for Hard cheese (mean=94.3) is negatively skewed (Skewness = -0.52, SE of Skewness = 0.21), that is, cases with large values outnumber cases with small values (Figure 9.9).

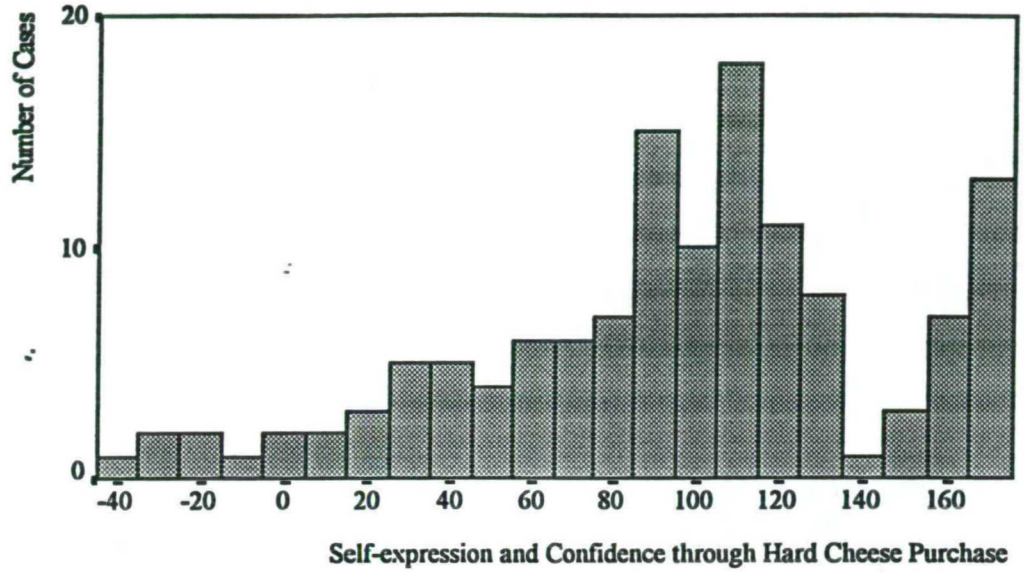


Figure 9.9. Histogram of Self-expression and Confidence through Hard Cheese Purchase

A binomial test was completed (Table 9.9) which, when interpreted, revealed that there is no strong, statistical evidence to show that Hard cheese buyers hold strong positive or negative opinions concerning self-expression and confidence through hard cheese purchase.

Table 9.9. Results of a Binomial Test conducted for Self-expression and Confidence through the Purchase of Hard Cheese.

Observed and Expected Values	Cases per Value	Probability for Type I Error
Test Prop. = 0.50 Obs. Prop. = 0.5530	Value 2 =73 Value 1 =59 Total 132	P= 0.2578

According to information presented in Table 9.3, and discussed in Section 9.2.3.1, Hard cheese is often consumed grated in spaghetti dishes. The housewife might not expect special compliments for cheese selected to be consumed in this way - especially

in the case that the outcome of this choice is a standardised branded cheese (e.g., Reggato for nearly 25 percent of the cases).

9.2.3.4 Managerial Applications

The findings related to Hard cheese purchasing involvement as presented and discussed in the previous sections, show that purchasers hold neither strongly positive or strongly negative opinions concerning Hard cheese perceived importance for their household. Also, they do not seem to have significantly negative or positive feelings regarding their self-expression and confidence in relation to the choice of cheese types included in this category. Still, a significant proportion of them is quite highly involved in the purchase of Hard cheese, recognising that a range of such cheeses is offered in the market, and that it is quite important to make the right choice when buying Hard cheese.

A promotional campaign might aim at improving[88] this profile, leading to an increase in sales for a certain brand of Hard cheese. An advertising manager might relate this cheese to other issues that might be important for the buyer and user. If, for instance, the buyers under consideration value highly their time, then 'brand X', for example, might get related to a quickly prepared spaghetti dish - by emphasising good taste and/or good price. A joint advertising campaign with a spaghetti brand should also be considered. Furthermore, leaflets giving ideas about ways to prepare various types of 'mezes' using Hard cheese, might evoke the user's awareness of the possibility of showing her family that she is interested in the pleasure they gain from food and, also, of the chance to receive compliments for a nice recipe either from her family or from guests.

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[88] from the point of view of a cheese making enterprise.

9.2.4 Purchasing Involvement Profile for Soft Cheese

9.2.4.1 Perceived Importance of Soft Cheese for the Household

The variable perceived importance of soft cheese for the household was scored by 91 respondents (mean = 73.13). Analysis revealed that the distribution of the variable was negatively skewed (Skewness=-.84 and SE of Skewness=0.25; Figure 9.10).

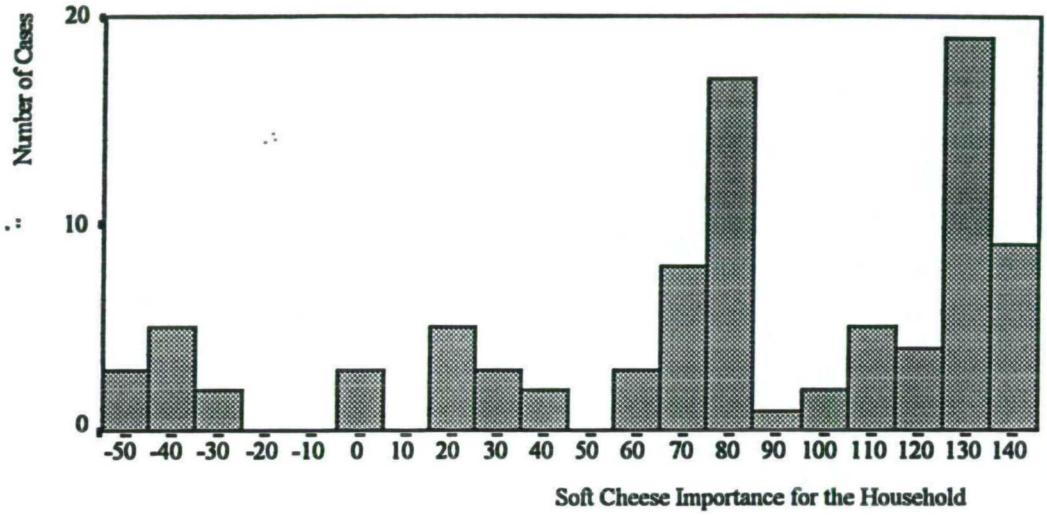


Figure 9.10. Histogram of Perceived Importance of Soft Cheese for the Household

The binomial test (Table 9.10) revealed that there is no strong, statistical evidence to show that Soft cheese buyers hold strong positive or negative opinions concerning the importance of this cheese category for their household.

Table 9.10. Results of a Binomial Test Conducted for Perceived Importance of Soft Cheese for the Household.

Observed and Expected Values	Cases per Value	Probability for Type I Error
Test Prop. = 0.50	Value 2 =49	P= 0.5294
Obs. Prop. = 0.4615	Value 1 =42	
	Total 91	

Information presented in Table 9.3 and Figure 9.11 enlightens further perceptions of Soft cheese. According to these, the most common usage for Soft cheese is in toast/sandwiches. Seventy seven percent of the households under consideration consume Soft cheese in this way, while 85 percent of them do so at least once weekly.

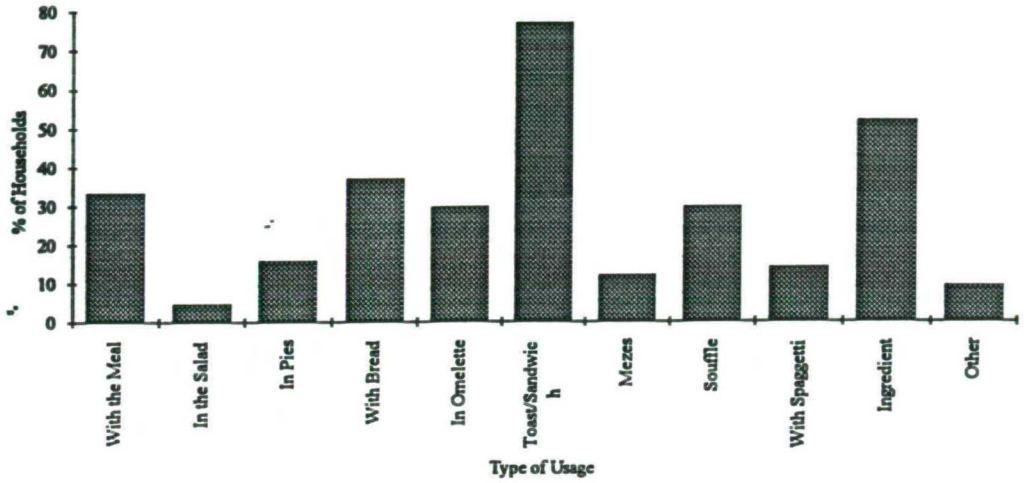


Figure 9.11. Way of Usage for Soft Cheese

For another 30 percent of the households considered, Soft cheese is used as an ingredient in soufflé; for 63 percent of these cases, Soft cheese is used this way at least once every 10 or 15 days. Also, for another 30 percent of the cases considered Soft cheese is used in omelettes; 66 percent of these cases using it this way at least once weekly. Also, this cheese category is commonly used as an ingredient in other recipes (e.g., pizza, etc.) in 52 percent of the cases; seventy eight percent of these cases use Soft cheese in this way at least once every 10 or 15 days.

Still, Soft cheese purchasers, as it appears for the given data and sample size, do not hold strong positive or negative positions regarding importance of this cheese category for their household menu, or, for the diets of their household members. A possible explanation, deserving further investigation in future research, might be that Soft cheese buyers either might not consider toast/sandwiches, soufflés, and/or omelettes as important dishes for their household menu and diet, or, if they do so, perhaps they do not break down this importance to the individual ingredients of these dishes (e.g., Soft cheese).

9.2.4.2 Purchasing Involvement for Soft Cheese

Analysis of the variable purchasing involvement for the cases concerning Soft cheese (mean = 122.96) revealed that its distribution was positively skewed (Skewness = 0.74, SE of Skewness = 0.25); that is, cases with small values outnumber cases with large values (see also Figure 9.12).

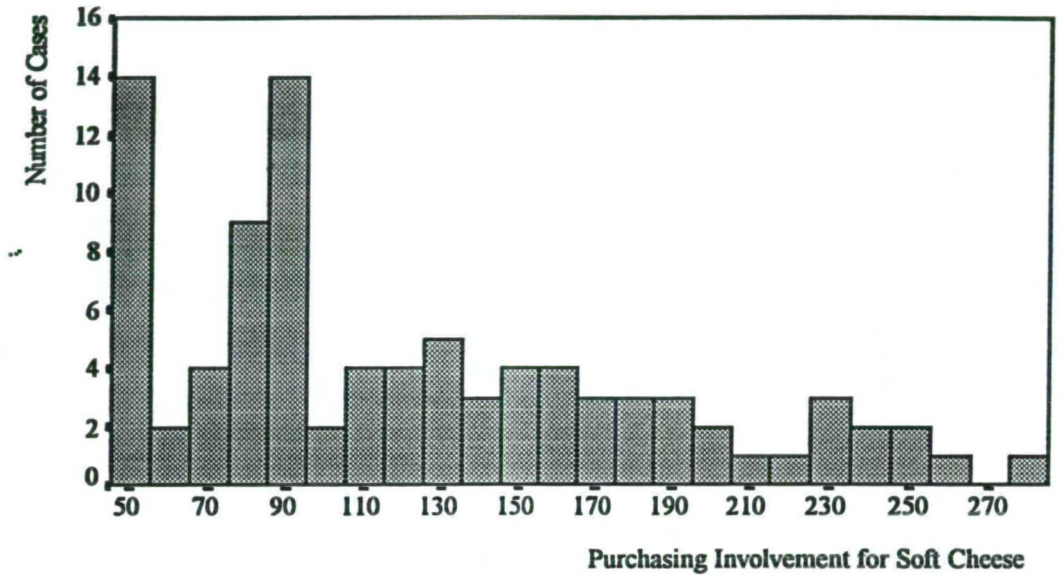


Figure 9.12. Histogram of Purchasing Involvement for Soft Cheese

The binomial test (Table 9.11) revealed that there is no strong, statistical evidence to show that Soft cheese buyers are significantly more (or less) interested in the purchase of this cheese category. Information presented in Table 9.12, and findings of the qualitative survey, can help in interpreting these results.

Table 9.11. Results of a Binomial Test Conducted for Purchasing Involvement for Soft Cheese

Observed and Expected Values	Cases per Value	Probability for Type I Error
Test Prop. = 0.5000 Obs. Prop. = 0.5604	Value 2 =40 Value 1 =51 Total 91	P= 0.2945

As it is shown in Table 9.12, the Soft cheese category comprises five major cheese types, including branded and non branded products. The majority of Soft cheese

buyers answering the quantitative survey questionnaire for this cheese category claimed that they buy branded products (e.g., Gouda, Emmental and Edam - about 53 percent); the remainder buy generic products. Still, in the qualitative survey, buyers claimed that they do not perceive cheeses in this category to differ significantly

Table 9.12. Synthesis of Cases Included in Soft Cheese Category.

Cheese Types in Soft Cheese Category	Number of Cases	Percentage of Cases over Total
Gouda**	35	38.46
Emmental**	8	8.79
Edam**	5	5.49
Sliced Cheese for Toast*	41	45.05
Soft Cheese-she does not know the type*	2	2.19
Total	91	100

** Brand
*Generic

each other. Furthermore, in most cases, these cheeses are not sold pre-packaged; that is, the person serving in the cheeses section cuts a piece from a larger block. The buyer cannot always check if the cheese she buys is Gouda or 'Gouda-type' (Industry Sources, Qualitative Survey, February 1994).

It seems from the above that buyers find it difficult to identify significant differences between Soft cheeses available in the market of Athens. As it was also shown in the previous section, they hold neither strong positive nor positive negative positions in relation to Soft cheese importance for their household menus. Common sense would suggest, therefore, that buyers do not have high interest towards these cheeses.

9.2.4.3 Self-expression and Confidence through Soft Cheese Purchase

The distribution of the variable self-expression and confidence for Soft cheese (mean = 76.86) was negatively skewed (Skewness=-0.42, SE of Skewness=0.25); that is, large values outnumbered small values (Figure 9.13).

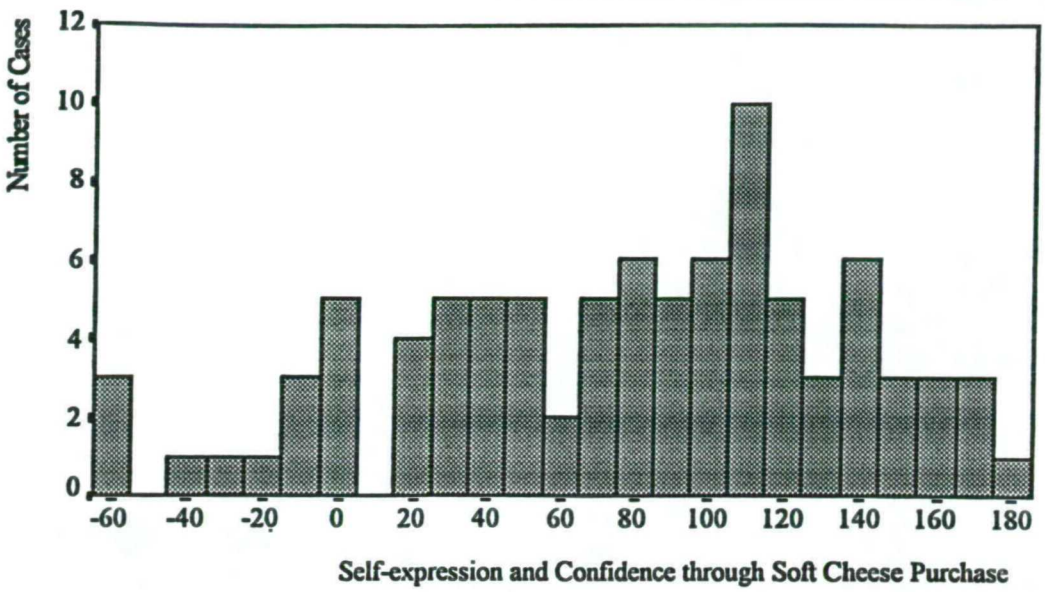


Figure 9.13. Histogram of Self-expression and Confidence through Soft Cheese Purchase

Table 9.13. Results of a Binomial Test conducted for Self-expression and Confidence through the Purchase of Soft Cheese

Observed and Expected Values	Cases per Value	Probability for Type I Error
Test Prop. = 0.5000 Obs. Prop. = 0. 8462	Value 2 =77 Value 1 =14 Total 91	P= 0.0000

The results of a binomial test (Table 9.13) revealed that the alternative hypothesis can be accepted at the 99 percent significance level. That is, a statistically significant proportion of Soft cheese buyers receive relatively large values on the variable self-expression and confidence through soft cheese purchase. Indeed, analysis of the scores on items comprising the scale measuring this variable show that nearly 74 percent of buyers feel confident towards the product they buy. This high percentage might be related to the fact that almost 50 percent of Soft cheese buyers interviewed for this dissertation purchase branded Soft cheese products. Also, nearly 60 percent of them receive compliments due to recipes they prepare using Soft cheese - it seems that creativity is rewarded (Appendix 6).

9.2.4.4 Managerial Applications

According to the Purchasing Involvement Profile of Soft cheese, Soft cheese buyers are relatively neutral regarding the importance of this cheese category for their household. Also, they are neutral regarding interest towards the purchase of this product category. However, they feel quite confident in relation to the choice of Soft cheese and they receive compliments for using it.

For an advertising manager, to use messages that would increase buyer's interest towards the purchase of Soft cheese; she/he could use the knowledge that buyers/users receive compliments for recipes they prepare with this product category, for example, 'for really successful recipes buy Brand X'. Or, the contrary, knowing that this category is not considered as important for the household members' diet, and taking into consideration that purchasing involvement is low (e.g., buyers do not think that there are significant differences between the various types of Soft cheeses offered on the market), a 'lower price' policy might increase the amount of sales.

9.3 Conclusions

In this Chapter, Purchasing Involvement Profiles for three cheese categories (i.e., Feta, Hard and Soft cheeses) were constructed, using the variables: purchasing involvement, importance of a cheese category for the household, and self-expression and confidence. The data used for the construction and interpretation of these Profiles came from the qualitative and quantitative surveys conducted in Athens for this dissertation.

The statistical analyses and interpretation of the data available showed that each cheese category has a different Purchasing Involvement Profile. Feta cheese evokes high interest towards its purchase, and is considered very important for the household. Also, Feta scores high on the variable measuring self-expression and confidence. Buyers do not seem to perceive Hard and Soft cheeses as important for their household, but a quite large proportion of Hard cheese buyers are more than the

average (mean = 100) involved in the purchase of this cheese category. Furthermore, a statistically significant large number of Soft cheese buyers feel confident due to the purchase of this cheese category and express themselves through Soft cheese purchase and usage. The same cannot be statistically proved for Hard cheese buyers.

The description of these cheese categories and presentation in profiles (i.e., product segmentation), has provided the basis for some examples related to how PPIPs can be of use for marketing and advertising managers. The construction and interpretation of these Profiles should be seen only as a demonstration because, as was suggested in Chapter 8, the reliability of the scales with which the three variables under consideration were measured require further testing and improvement. Also, additional purchasing involvement antecedents and sources could be identified and measured, thereby, helping in the construction of more complete Purchasing Involvement Profiles for the products and market under consideration. Moreover, knowledge on causal relationships between purchasing involvement and its antecedents and sources would give further insights for the development of more effective communication strategies.

In the following chapter, an effort to investigate the diversity of cheese buyers in Athens will be attempted, that is, through segmentation of cheese buyers.

CHAPTER 10. CHEESE BUYERS INVOLVEMENT PROFILES - IDENTIFICATION AND IMPLICATIONS

10.1 Introduction

Kapferer and Laurent (1985) suggested that Involvement Profiles can be used as enlightening new tools for product and market segmentation. Following these researchers conceptual framework, Product Purchasing Involvement Profiles - for three cheese categories, were constructed in Chapter 9. Interpretation of these profiles and implications for marketing management were also discussed. According to Kapferer and Laurent, however, such an approach can hide the customer diversity within a target market. Thus, they recommended market researchers to undertake segmentation analysis on the research subjects (in the case of this thesis cheese buyers), using involvement facets as the segmentation variables. Following their recommendations, the objective of this chapter is to segment cheese buyers in Athens using Buyer Involvement Profiles. The marketing implications of such classification will also be discussed and, in doing so, the third hypothesis of this dissertation will be tested, viz.:

> **Hypothesis 3.** Cheese buyers can be classified into specific groups according to their purchasing involvement profiles.

10.2 Identifying Buyer Involvement Profiles - Statistical Tools

10.2.1 Cluster Analysis

The statistical procedure for classifying individuals into groups, so that individuals in the same group are more like each other than are individuals in other groups, is called cluster analysis (Hair *et al*, 1992). Therefore, the aim of cluster analysis is 'to identify homogeneous groups or clusters' (Norusis, 1993, p.83). In this type of analysis, the number of groups and the actual membership are, initially, unknown.

Cluster analysis can be an important tool for market segmentation; using it, marketing managers can classify buyers into similar clusters which, then, they can target more efficiently. Following the relevant literature (Laurent and Kapferer, 1985; Kapferer and

Laurent, 1985), the variables used to compute similarities among cheese buyers, in this dissertation will be: perceived purchasing involvement, perceived importance of cheese for the household, and perceived self-expression and confidence. Each homogeneous group will represent a composite Buyer's Involvement Profile (BIP).

10.2.1.1 Decisions Involved in Cluster Analysis: Distances, Algorithms and Number of Clusters.

The key questions that arise when using cluster analysis in market research and the answers provided in the relevant literature are presented in Table 10.1 (Hair *et al*, 1992, and Norusis, 1993). Such questions concern mainly the measures of inter-object distance and procedure (algorithm) that should be used in order to place similar individuals in the same cluster.

The choice of distance measures is important as the aim of cluster analysis is to minimize the distance between cases that are classified in the same cluster, and to maximize the distance between different clusters. As it is said in Table 10.1, Euclidean distance (i.e., the length of the hypotenuse of a right-angled triangle) is the most commonly used measure of the similarity between cases.

Regarding the algorithm followed in order to maximise the variation between clusters and minimise the variation within each cluster, two major procedures are discussed in the relevant literature (Hair *et al,* 1992; Norusis, 1993) and presented in Table 10.1:

- hierarchical procedure, where a dendrogram (i.e,a tree like structure) is constructed following either a) the agglomerative method, where each individual case is initially a separate cluster. In subsequent steps, individuals that are closest together (i.e., smaller distance) are combined to build a new aggregate cluster, and b) the divise method that begins with a single large cluster that is divided into separate clusters based on objects that ate the most disimilar; and
- non-hierarchical procedure where a treelike construction process is non-involved. The first step is to select a cluster centre or seed, and all individuals within a pre-specified threshold distance are included in the resulting cluster.

A hierarchical procedure using square Euclidean distances and a non-hierarchical procedure (k-means cluster) will be used in this chapter (see Table 10.1 and Section 10.3).

10.1.1.2 Limitations of Cluster Analysis

Reviewing the relevant literature, it is apparent that the analyst's choice regarding the distance measure used and the hierarchical, or non-hierarchical, procedure to be followed can affect the solution obtained by the cluster analysis (Hair *et al*, 1992 - see Table 10.2). Given the subjectivity involved, not only in the choice of the procedures employed but also in the selection and interpretation of number of clusters, it seems that cluster analysis can be seen more as an art than as a science. As Everitt (1993, p.148) emphasises, its application in the exploration of multivariate data 'may help the investigator discover the characteristics of any structure or pattern present.... however, it requires considerable care if over-interpretation of the solutions obtained is to be avoided' . Furthermore, the handling of large files has substantial requirements of computer memory. Usually, this has implications for the choice of algorithm selected for forming the clusters. This issue is further discussed in Section 10.3.

Table 10.1. Questions and Answers about Cluster Analysis.

Questions	Answers
How should inter-object distance be measured?	**Distance Measures**[89] Euclidean Distance: is the length of the hypotenuse of a right-angled triangle; the most commonly used measure of the similarity between two objects. Squared Euclidean Distance: is the sum of squared distances between cases instead of the Euclidean Distance (i.e., the square root is not taken) - the default in SPSS/PC+. City-block or Manhattan Distance: in the Euclidean Distance, the squared differences are replaced by the sum of the absolute differences of the co-ordinates. Chebuchev Distance: the maximum absolute difference in the values over all the variables. Normalised Distance function: it utilises a Euclidean distance measure. The raw data are normalised[90]. Mahalanobis Distance: A standardised form of Euclidean distance. Data are standardised and adjustments are made for inter-correlations between the variables.
What procedure (algorithm) should be used to place similar individuals into clusters?	**Algorithms**[91] The aim is to maximise the variation between clusters and minimise the variation within each cluster. There are two major categories of algorithms: (a) hierarchical procedures: a tree-like structure is constructed. It includes: the agglomerative method that starts with each individual in a separate cluster. In subsequent steps, individuals that are closest together are combined to build a new aggregate cluster; and the divisive[92] method that begins with a single large cluster that is divided into separate clusters based on objects that are the most dissimilar. Popular agglomerative procedures are :

[89] Distance is a measure of how far apart two objects are, while similarity measures closeness. Only distance measurements will be discussed here as the Euclidean distance is the most commonly used measurement for interval data (the type of data presented herein).

[90] Normalisation (standardisation) of data eliminates the bias introduced by the differences in the scales of the variables used in the analysis.

[91] An algorithm is a set of rules or procedures; similar to an equation.

[92] Since most commonly-used computer packages use agglomerative methods divisive methods, do not receive significant coverage in the relevant literature. The same will apply in this dissertation.

	1) Single linkage: it is based on minimum distance. It finds two individuals with the shortest distance and places them in the first cluster. The process continues until all objects are in one cluster. 2) Complete linkage : it is based on the maximum distance between objects. All objects in a cluster are linked to each other at some maximum distance or minimum similarity. 3) Average linkage: it uses the average distance from individuals in one cluster to individuals in another cluster as the clustering criterion. This approach tends to combine clusters with small variances. 4) Ward's method : the distance between two clusters is calculated as the sum of squares between the two clusters summed over all variables. 5) Centroid method: the distance between two clusters is the distance (typically Euclidean) between their centroid (means). Each time individuals are grouped, a new centroid is computed. Thus, cluster centroids migrate, or move, as cluster mergers take place. (b) non-hierarchical procedures often referred to as K-means clustering: these do not involve the treelike construction process. The first step is to select a cluster centre or seed, and all individuals within a pre-specified threshold distance are included in the resulting cluster. The algorithm providing the basis for determining cluster membership in K-means Cluster Analysis in SPSS/PC+ (used in this dissertation) is the: nearest centroid sorting, that is, a case is assigned to the cluster with the smallest distance between the case and the centre of the cluster (centroid). If the cluster centres are known, they can be specified, and case assignment is based on them. Otherwise, cluster centres are iteratively estimated from the data. Often, for large files, the cluster centres are specified through a hierarchical cluster analysis procedure based on a random sample of cases. These centers are then used for a K-means cluster analysis on the whole sample of cases available.
How many clusters should be formed?	A standard, objective selection procedure does not exist. The distances between clusters at successive steps may serve as a useful guideline. The analyst may decide to stop when steps make a sudden jump. The final selection of clusters number may be based on *a priori* criteria, practical judgement, common sense, or theoretical foundations.

Source: Hair *et al* (1992) and Norusis (1993).

10.3 Identifying Buyer Involvement Profiles

The objective of cluster analysis in this dissertation is to identify groups of cheese buyers that score in a similar way on the three variables under consideration, that is, purchasing involvement and two purchasing involvement facets.

The number of individuals to be classified is 490, that is the number of responses elicited for five cheese categories from the quantitative survey undertaken for this dissertation. However, from a computer resources usage perspective, files with more than 200 cases are considered as large (Norusis, 1993). As a result, it is suggested, that k-means non-hierarchical cluster analysis should be more appropriate for handling such files as this procedure does not require substantial computer resources (ibid.). This procedure requires a user-specified number of clusters, while **the seed points** (see Table 10.1) used can be either random or, again, user-specified. Hair *et al* (1992), however, state that the use of non-hierarchical techniques with random seed points is remarkably inferior to the hierarchical techniques. They suggest that a hierarchical procedure should be used on a random sample of cases to help determine the number of clusters, and to provide the **seeds** (also called **initial cluster centres)** for the subsequent k-means cluster analysis; then, a k-means cluster with user-specified centres on all cases available can be run (Norusis, 1993; Hair *et al*, 1992). This suggestion will be followed by this researcher. Thus, in Section 10.3.1, a hierarchical cluster analysis will be performed in a random sample of cases. Then a k-means cluster analysis (also called quick cluster) will be performed with a user-specified number of clusters and known initial cluster seeds.

10.3.1 Conducting Hierarchical Cluster Analysis in a Random Sample of Cases

A random sample of 196 cases was chosen, through the SPSS/PC+ random cases selection procedure. The three variables used for clustering these cases have been standardised for this sample, having means of 100 and standard deviations of 50. Given that the variables under consideration are metric, the default of the SPSS/PC+ for computing similarities between cases was selected, that is, Squared Euclidean Distances. Regarding the choice of algorithm to be used, Hair *et al* (1992) state that

Ward's and Average Linkage methods (see Table 10.1) were probably the most popular in the past as the best available hierarchical techniques. According to the same source, the average linkage approaches, on the one hand, tend to combine clusters with small variances and, also, to be biased toward the production of clusters with approximately the same variance. Analysts using Ward's method, on the other hand, should be aware that it tends to combine clusters with a small number of observations and is biased toward the production of clusters with approximately the same number of observations. Following Hair *et al* (1992) suggestions, this researcher, chose to employ Ward's method.

An examination of the squared Euclidean distance (coefficients 982413,81250 and 1452025,5 in Appendix 8) suggested between two and one clsuter. A two cluster solution was chosen by this researcher, as it seemed to provide quite straightforward interpretable results (see Appendix 8). According to this solution from the 196 cases involved in this analysis, 120 were classified in the first cluster and 76 in the second cluster. The means of the three variables under consideration for the two clusters are presented in Table 10.2.

Table 10.2. Cluster Centres as generated by the Hierarchical Cluster Analysis in a Random Sample of Cases

Variables	First Cluster (means) n_1*= 120	Second Cluster (means) n_2*= 76
Perceived Importance of Cheese for the Household	117.83	71.779
Purchasing Involvement for Cheese	75.155	133.229
Self-expression and Confidence	125.185	60.235

*n_i= number of cases classified in each cluster.

Given that the initial variables had a mean of 100 and a standard deviation of 50, and considering the means in Table 10.2, cases in cluster 1 show relatively[93] high interest towards cheese purchase, consider this product class as important for their household;

[93] in relation to the mean.

and express themselves through cheese purchase, feeling confident about their choice. For cases included in the second cluster, quite low interest towards cheese purchase is expressed. Also, this product class is perceived to be of low importance for the household and receives relatively low scores on the variable self-expression and confidence. Furthermore, means in Table 10.2, will be used as initial cluster centres in the k-cluster analysis conducted in the following section.

10.3.2 Conducting K-Cluster Analysis for all Cases - Interpretation of the Results.

The results of the hierarchical cluster analysis conducted on a random sample of cases in the previous section provided the number of clusters and the initial cluster centres for the k-means cluster analysis performed at this stage of this dissertation. Once the initial cluster centres were specified, the Euclidean distance of all cases from these centres are calculated. Cases with similar distances from the initial cluster centres are classified into the same cluster. After having assigned the cases to clusters, it is possible to calculate the actual centres of the resulting clusters. These values, presented in Table 10.3, are called the **final cluster centres** and are simply the average values of the variables under consideration for cases in the cluster.

Table 10.3. Final Cluster Centres as resulted by the K-means Cluster Analysis

Variables	First Cluster Final Centres* n_1**= 355	Second Cluster Final Centres* n_2**= 135
Perceived Importance of Cheese for the Household	119.50	48.72
Purchasing Involvement for Cheese	85.05	139.31
Self-expression and Confidence	118.04	52.55

*i.e., the means of variables for each cluster
**ni= number of cases classified in each cluster.

Table 10.3, however, does not provide any information about variability within, and between, clusters. It is expected that a 'good' cluster solution should result in small variability within, and large variability between, clusters (Hair *et al*, 1992). Nevertheless, the k-means cluster analysis solution obtained by SPSS/PC+ reports an

analysis for each one of the variables under consideration. In this analysis, the ratio of the between-cluster to within-cluster mean is labelled F and is shown in Table 10.4.

Table 10.4. Variability of Variables within and between Clusters.

Variable	Cluster Mean Squares	Error Mean Squares	F	Significance Level
Importance of Cheese for the Household	490053.78	1500.91	326.50	0.00000
Purchasing Involvement	287995.33	1914.968	150.39	0.00000
Self-expression and Confidence	419546.42	1645.39	254.98	0.00000

In such types of analyses, large ratios and small observed significance levels are associated with variables that differ between clusters. It is suggested, however, that 'the F tests should be used only for descriptive purposes, since the clusters have been chosen to maximise the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal' (Norusis, 1993, p.116). Whereas, taking this suggestion into consideration, it can be said that for the three variables under examination (see Table 10.4) the F values are large and the associated significance levels are small. Cheese Buyer Involvement Profiles can be the basis for market segmentation using purchasing involvement, importance of cheese for the household, and self-expression and confidence - as the cluster variables.

Indeed, an examination of Table 10.3 and Figure 10.1 indicate that cases falling into the first cluster (i.e., first Buyers Involvement Profile) show relatively[94] high interest in cheese purchase (m[95]=85.05[96]) and perceive this product class as important for their household (m=119.50). Furthermore, they feel that they express themselves through cheese choice and feel confident regarding their choice of products (m=118.04). Cases falling into the second Buyer Involvement Profile show relatively low interest in the

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94 In relation to the mean.

95 m: sample mean.

96 The reader is reminded that 'low' scores in the scale measuring this variable show high purchasing involvement and vice-versa.

purchase of cheese (m=139.31). Also, they perceive cheese as of relatively low importance for their household (m=48.71). Their average score on the variable self-expression and confidence (m=52.55) is also lower than the average score for the total of cases under consideration (m=100). Having considered the above, this researcher decided to name the first Buyer Involvement Profile (BIP) as **'High BIP'** and the second as **'Low BIP'** (see Figure 10.1).

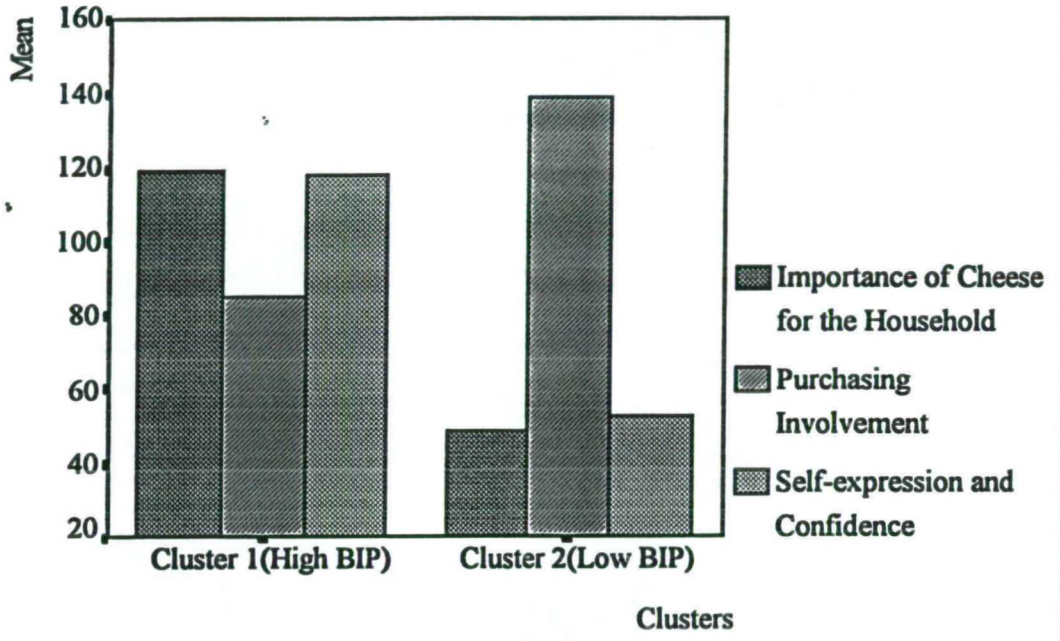


Figure 10.1. Two Buyer Involvement Profiles for Five Cheese Categories.

For the marketing manager, it would be interesting to know the synthesis of cases falling within each BIP; that is, if there is any relationship between the BIP within which each case falls, and the Cheese Category purchased in each case. This issue is investigated in the following section.

10.4 Buyer Involvement Profile for Five Cheese Categories

The numbers assigned to each cheese category in Figure 10.2 represent the percentage of each cheese category buyers that belong to each one of the BIPs identified in the previous section. It is shown that, 94.4 and 70.6, 88.4, 62.1 and 46.2 percent of

individuals that purchase Graviera, Feta, Kaseri, Hard and Soft cheeses, respectively, fall into the market segment called 'High BIP'.

With the exception of the Soft cheese category, the greater proportion of cheese buyers fall into the 'High BIP' segment than the 'Low BIP'. Taken into consideration that such a classification can be used for more effective market targeting, it seems important to know if the proportion of individuals falling into each segment is random, or, if it is related to the cheese category that each individual buys. This issue is investigated in the following section.

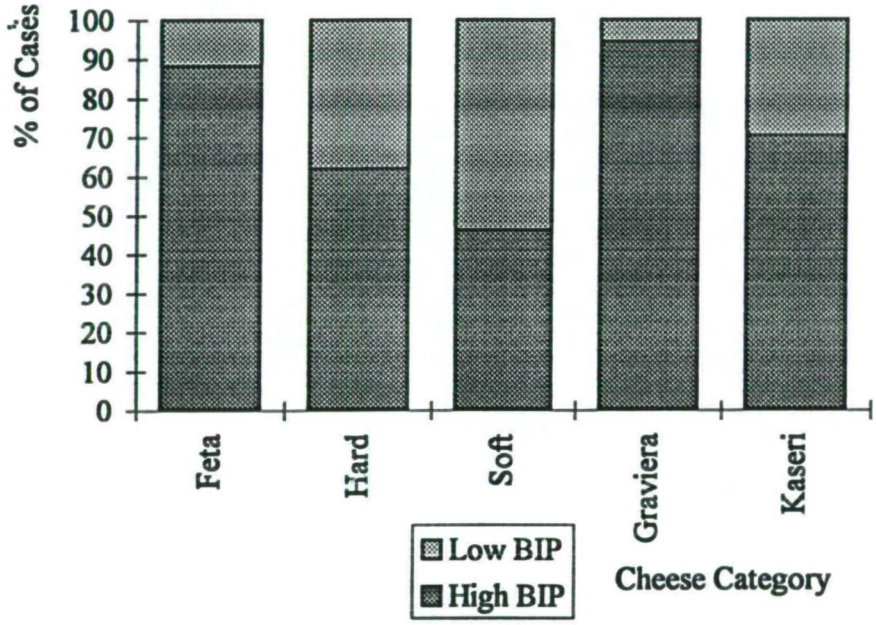


Figure 10.2. Percentage of Cases belonging to the 'High' and 'Low BIP' Segments per Cheese Category Purchased.

10.4.1 Relationship Between Cluster Membership and Cheese Category Purchased.

The issue of a possible relationship between the cluster a case belongs to (i.e., cluster membership) and the cheese category purchased is addressed in this section. More particularly, the **independence** of the variables cluster membership[97] and cheese

[97] This variable takes the value 1 for cases falling into the 'High BIP' segment, and 2 for cases falling into the 'Low BIP' segment.

category purchased [98] is investigated. According to Aaker and Day (1990, p. 462), 'two variables are statistically independent if a knowledge of one would offer no information as to the identity of the other'.

Chi-square is a non-parametric statistical procedure used to test independence of variables. It is considered the most appropriate test for cases in which initial analyses are based on frequency distributions instead of sample means (Aaker and Day, 1990, p.439). A **contingency table**[99] is used for this test (see Table 10.5). Observed values, that is, the frequencies actually observed, and expected values, that is, the frequencies expected if the two variables were independent, are included in this table. The null hypothesis tested is that the row and column variables in the contingency table are inter-dependent.

Table 10.5. Contingency Table between the Variables Cheese Category Purchased and Cluster Membership.

Cluster	Feta	Hard	Soft	Graviera	Kaseri	Row Total
High BIP	190 (1) 158.8 (2)	82 95.6	42 65.9	17 13.0	24 24.6	355
Low BIP	25 59.2	50 36.4	49 25.1	1 5.0	10 9.4	135
Column Total	215	132	91	18	34	490

(1) Numbers in the first row of each cell represent observed values.
(2) Numbers in the second row of each cell represent expected values.

Several formulas have been developed in order to test if the observed frequencies are significantly different from the expected ones. The **Pearson chi-square**, for example, is often used to test that contingency table row and column variables are independent (Norusis, 1992). The formula for this test is :

$$\chi^2 = \Sigma i \Sigma j \frac{(Oij - Eij)^2}{Eij}$$

Where:

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[98] This variable takes, alternatively, the values: 1 for Feta cheese; 2 for Hard cheese; 3 for Soft cheese; 4 for Graviera cheese; and 5 for Kaseri cheese.

[99] i.e., a table where a variable is presented against another; every cell of this table represents how frequently variable 1 takes value x when variable 2 takes value y.

i: row

j: column

O*ij*: observed frequency (i.e., number of cases) in cell in row *i* and column *j*

E*ij*: expected frequency (i.e., if independence holds) in cell in row *i* and column *j*.

The SPSS/PC+ performs this test and also reports the significance level[100] for it.

The null and alternative hypotheses tested here are formulated as follows:

Null Hypothesis (H_0): There is no relationship between the cheese category purchased and cluster membership.

Alternative Hypothesis (H_1): There is a relationship between the cheese category purchased and cluster membership.

The SPSS/PC+ results of testing these hypotheses are presented in Table 10.6.

Table 10.6. Results of an Independence Test for the Variables 'Cluster Membership' and 'Cheese Category Purchased'.

Chi-Square	Value	DF	Significance
Pearson	70.30830	4	.00000
Minimum Expected Frequency - 4.959			
Cells with Expected Frequency*< 5 - 1 OF 10 (10.0%)			

*a condition holding for using chi-square test is that expected frequencies should be at least 5 in each cell.

The observed significance level of the test (0.00000), that is, the probability to commit Type I Error, is very small. Therefore, the null hypothesis that the variables 'cluster membership' and 'cheese category purchased' are independent is rejected. The exact pattern describing the relationship between the variables under consideration should merit closer examination in future research work.

10.5 Managerial Applications

In Table 10.7 the level of involvement buyers have with cheese products marketed in Athens is presented.

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[100] In a chi-square test, the significance level is the probability that a difference between expected and observed values as large as the one observed would have arisen if this difference was actually zero.

Table 10.7. Percentages of Cheese Buyers allocated to 'High BIP' and to 'Low BIP', per each Cheese Category.

Cluster	Feta (n=215)	Hard (n=132)	Soft (n=91)	Graviera (n=18)	Kaseri (n=34)
High BIP	88.4	62.1	46.2	94.4	70.6
Low BIP	11.6	37.9	53.8	5.6	29.4

n=number of cases

It seems from Table 10.7, for Feta, Hard, Graviera and Kaseri cheeses, larger proportions of buyers fall into the segment labelled High BIP than into the Low BIP segment. Indeed, binomial tests undertaken by this researcher and presented in Table 10.8 support this claim (with the exception of Soft cheese) and also the findings of the analysis undertaken in Section 10.4.1.

As Kapferer and Laurent (1985) suggest, constructing Involvement Profiles and segmenting the market accordingly can provide a more complete understanding of the products, buyers and variables under consideration.

To this researcher view, however, for the marketing manager to decide which implications the above might have to the development of communication strategies, further analysis is required and more definite proofs regarding the differences in the variables means between the two clusters under consideration. Nevertheless, this present research can only be considered preliminary. Further research to construct and explore more complex BIPs, for example, would provide marketing communications strategies with more detailed and, perhaps, more commercially relevant information for uses in marketing planning. Kapferer and Laurent (1985), for example, were able to identify five involvement facets and ten segments (i.e., involvement profiles) in a study of two product categories involving 800 consumers (final sample = 1600 cases).

Table 10.8. The Proportions of Feta, Hard, Soft, Graviera and Kaseri Cheese Buyers located in 'High BIP' and 'Low BIP' segments.

Cheese Category	Hypotheses Tested	Observed and Expected Values	Cases per Segment	Probability for Type 1 Error/Result
Feta Cheese	**Null Hypothesis (H_o):** There is no significant difference between the proportion of Feta Cheese buyers belonging to the High BIP and those belonging to the Low BIP. **Alternative Hypothesis (H_1):**There is a significant difference between the proportion of Feta Cheese buyers belonging to the High BIP and those belonging to the Low BIP.	Test Prop. = 0.50 Obs. Prop.= 0.8837	High BIP = 190 Low BIP = 25 Total 215	P= 0.0000 H_o rejected
Hard Cheese	**Null Hypothesis (HO):** There is no significant difference between the proportion of Hard Cheese buyers belonging to the High BIP and those belonging to Low BIP. **Alternative Hypothesis (H1):** There is a significant difference between the proportion of Hard Cheese buyers belonging to the High BIP and those belonging to the Low BIP.	Test Prop. = 0.50 Obs. Prop.= 0.3788	High BIP = 82 Low BIP = 50 Total 132	P= 0.0070 H_o rejected
Soft Cheese	**Null Hypothesis (HO):** There is no significant difference between the proportion of Soft Cheese buyers belonging to the High BIP and those belonging to the Low BIP. **Alternative Hypothesis (H1):** There is a significant difference between the proportion of Soft Cheese buyers belonging to the High BIP and those belonging to High BIP.	Test Prop. = 0.50 Obs. Prop. =46.15	High BIP =42 Low BIP = 49 Total 91	P= 0.5294 H_o is not rejected
Graviera Cheese	**Null Hypothesis (HO):** There is no significant difference between the proportion of Graviera Cheese buyers belonging to the High BIP and those belonging to the Low BIP. **Alternative Hypothesis (H1):** There is a significant difference between the proportion of Graviera Cheese buyers belonging to the High BIP and those belonging to the Low BIP.	Test Prop. = 0.50 Obs. Prop. =94.44	High BIP =17 Low BIP = 1 Total 18	P= 0.0001 H_o rejected
Kaseri Cheese	**Null Hypothesis (HO):** There is no significant difference between the proportion of Kaseri Cheese buyers belonging to the High BIP and those belonging to the Low BIP. **Alternative Hypothesis (H1):** There is a significant difference between the proportion of Kaseri Cheese buyers belonging to the High BIP and those belonging to the Low BIP.	Test Prop. = 0.50 Obs. Prop. =70.59	High BIP =24 Low BIP = 10 Total 34	P = 0.0258 H_o rejected

10.6 Conclusions

In this chapter, cheese buyers in Athens were described using three variables, viz.: purchasing involvement and two purchasing involvement facets. Cluster analysis, using factor scores for each variable as the primary data, was undertaken and resulting two buyer segments, described as 'High Buyers Involvement Profile (High BIP)' and 'Low Buyers Involvement Profile (Low BIP)'. For High BIP, buyers seemed to have high values for the variables perceived importance of cheese for the household and self-expression and confidence. Scores for these cases, also, indicated relatively high purchasing involvement. The opposite seemed to occur for the Low BIP segment. Also, further analyses showed that, larger proportions of Feta, Hard, Graviera and Kaseri cheese categories belong to the 'High BIP' cluster than to the 'Low BIP' cluster. Possible implications of such findings for the marketing manager were also discussed.

The interpretation of these results serve to confirm Laurent and Kapferer's (1985) view that the examination of involvement profiles based on scores of involvement antecedents and sources provides the marketer with more complete information about the market than an examination of the level of involvement alone. Moreover, the BIPs constructed in this dissertation were based not only on scores on purchasing involvement facets but also on scores on purchasing involvement *per se*.

Furthermore, although definite statistical proof is not presented showing significant differences between the two buyer segments identified above, and, therefore rejection or acceptance of the third hypothesis[101] of this thesis is not possible, the results reported in this chapter are in accordance with Mittal and Lee's (1989) suggestion about a causal relationship between the level of Purchasing Involvement and its antecedents and sources (e.g., perceived importance, self-expression and confidence). However, it is suggested that, in the 'Low BIP' segment, low levels of perceived importance of cheese for the household and self-expression and confidence are related to low purchasing involvement; and that high levels of perceived importance of cheese for the household, and self-expression and

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[101] **Hypothesis 3.** Cheese buyers can be classified into specific groups according to their purchasing involvement profiles.

confidence are related to high purchasing involvement in the High BIP segment. Although an analysis of such causal relationships and flows is beyond the scope of this dissertation, future research might further enlighten this issue.

CHAPTER 11. CONCLUSIONS AND RECOMMENDATIONS

11.1 Introduction - Research Background and Goal

The Greek market for cheese is in transition. Although cheese per capita consumption remains high, the types and origin of cheeses consumed are changing. Not only is the volume of imported cheeses increasing but, also, there is a discernible shift from non-branded, commodity items to branded products (Chapter 2).

The dynamic nature of the cheese market can be explained, in part, by changing consumer characteristics, such as demographics, lifestyles, urban-living and purchasing power. The new product development and marketing strategies of manufacturers should be consonant with the evolving elements of cheese buyer behaviour (Chapter 3). There is scant research extant on purchasing behaviour for cheese in Greece. Yet, if the industry is to respond to or, indeed, anticipate changes in consumer demand for cheese products, then, there is a need ***to investigate purchasing behaviour for cheese products in Greece*** - this is the goal of this dissertation.

In the following sections, a summary of the methodological approach adopted for this research and the main findings of this dissertation are presented. Theoretical and managerial implications of these findings are discussed, and recommendations are made.

11.2 Methodological Approach

Launching new products and making a profit doing so requires a thorough understanding of factors that influence the purchase decision process. Involvement theory has provided the theoretical basis for this dissertation (Chapters 4 and 5), particularly, as the theory relates to the development of new products and communication strategies.

More specifically, attention has been placed on buyer involvement with the purchase of various generic cheese categories; that is, the focus of the research has been on

purchasing involvement. Additionally, efforts have been made to identify and measure purchasing involvement antecedents and sources. The analytical frameworks of Mittal and Lee and Kapferer and Laurent have been adopted to address the research problem.

A qualitative survey was undertaken in order to investigate aspects of cheese buyer behaviour in Athens, and the relevance of involvement related concepts for the product class and market under consideration (Chapter 6). The validity and reliability of scales used to measure these concepts were tested through a quantitative survey (Chapters 7 and 8). Further analyses included product and market segmentation (Chapters 9 and 10), using purchasing involvement and its facets.

11.3 Main Findings of the Research

11.3.1 Cheese Product Purchasing Involvement and its Facets

The qualitative survey showed that not all cheese buyers are equally involved in the purchase of cheese products. Furthermore, the survey identified the relevance of certain purchasing involvement antecedents and sources such as: importance of cheese for the household, self-expression and confidence (related to psycho-social reward and risk), and utility due to convenience and price.

A large number of scales measuring involvement-related constructs can be found in the relevant literature. In this research, the applicability of scales developed by key researchers in helping explain purchasing behaviour for cheese products in Athens, Greece, was explored. These scales were modified to meet the specific requirements of the products and market in question. Four scales measuring perceived purchasing involvement, perceived self-expression and confidence, perceived importance of cheese for the household, and perceived utility due to convenience and price have been shown to be valid (i.e., the constructs can be identified separately); however, only the scales measuring the first three of the above mentioned concepts displayed acceptable reliability levels.

11.3.2 Cheese Purchasing Involvement Profiles and Buyer Involvement Profiles

Cheese Product Purchasing Involvement Profiles and Buyer Involvement Profiles were constructed, and the dissertation focused on how these profiles can be used for more effective product promotion in particular, and more effective target marketing in general.

11.4 Theoretical Implications

*** Purchasing Involvement - Definition**

Mittal and Lee (1989) identified two forms of involvement, viz.: product involvement, that is, the interest a consumer finds in a product class; and purchasing involvement, that is, the interest taking in making the brand selection. Other researchers have also implied such a distinction, either implicitly by separating enduring from situational involvement (Bloch and Richins, 1983), or explicitly by suggesting that a person can be involved with purchase decisions (Zaichkowsky, 1985a).

The distinction between these two forms of involvement was crucial in this dissertation; as per most food items, the buyer of cheese products may be also the direct consumer, the user (as a housewife who prepares meals), and/or the products may be consumed solely by other members of the household or guests. Given this level of complexity, the research focused on buyer involvement with cheese product purchases. Further, because the majority of cheeses marketed in Athens are unbranded, Mittal and Lee's definition linking purchasing involvement to brand selection was modified to read:

> purchasing involvement is the interest the purchaser finds in making the product selection.

*** Dimensionality of Purchasing Involvement and Purchasing Involvement Facets**

Often, researchers have perceived involvement as a multidimensional concept, the dimensions, or components, of which are identifiable and measurable (Lastovicka and Gardner, 1979; Bloch, 1981). Laurent and Kapferer (1985) identified and measured underlying components which they recognised as the sources and antecedents of

involvement, and called them facets of involvement. Mittal and Lee (1989), in a general model based on earlier work by Cohen (1983), also, identified involvement antecedents and sources. Scales measuring product involvement sources and antecedents were developed and tested by researchers such as Laurent and Kapferer (1985), Zaichkowsky (1985a,b), Bloch (1981), and Dimanche *et al* (1991). Major sources and antecedents of product involvement and purchasing involvement, related to the goals and motives of consumers and purchasers included:

- importance;
- risk;
- pleasure;
- and self-expression.

The particular contribution of this research has been to identify and measure major antecedents of cheese buyers (and not of consumers). Indeed, special attention was paid to avoid mis-comprehension, due to the lack of clear distinction between the roles of buyer and consumer.

The research did not attempt to identify 'pleasure' as one of the purchasing involvement facets. This was because the qualitative survey showed that pleasure received by the buyer through the purchase might be misinterpreted by the survey respondents as pleasure due to expected consumption. Also, an effort to identify and measure 'risk' was not attempted, as the quantitative survey did not investigate comprehensively branded versus non-branded purchasing behaviour. Therefore, a uniform sample perceiving the risk related items in the same way was not available. Additionally, as the qualitative survey showed, often buyers perceive risk as related to the point of purchase. Feta buyers, for instance, are often loyal to the supermarket or the specialised shop where they buy this type of cheese, knowing that (most of the time) the product supplied by the retailer is trustworthy. In such cases, they might perceive risk as related to the point of purchase rather than to the product.

In summary, the following purchasing involvement antecedents and sources were identified in this dissertation:

- self-expression and confidence;
- product importance for the household;
- utility due to convenience and price.

In this researcher's view, the first of these refers to social reward, and responds to what is often described as the 'expressive' part of involvement. The other two concepts refer to the 'rational' part of involvement. Future research might further enlighten the issue, especially in relation to lateral brain functioning and in accordance with Mittal's (1987) framework that related emotional and rational involvement to right and left brain functioning, respectively.

*** Measurement Scales**

Some influential researchers have taken the view that involvement *per se* cannot be measured because of its multidimensional nature, although its components can be measured (Lastovicka and Gardner, 1979; Laurent and Kapferer, 1985). Zaichkowsky (1985a) and Mittal (1989a), however, suggest that purchasing involvement is a unidimensional concept that can be measured separately. The latter view was adopted and tested in this research.

The purchasing involvement measurement scale developed by Mittal (1989a), and scales measuring involvement facets developed by Laurent and Kapferer (1985) and Mittal and Lee (1989), were modified to meet the needs of the product class and market under investigation. The modifications of the scales were based on the results of the qualitative survey, a pilot questionnaire, and intuition of the researcher. The modifications were necessary because the intent has been to measure purchasing involvement facets and not the product involvement facets measured by Laurent and Kapferer's scales. Although Mittal and Lee's scales were measuring brand involvement (or purchasing involvement) and its facets, the view was taken that they should be modified to meet the requirements of the particular market and product under question. The research confirmed that the scales measuring purchasing involvement and three purchasing involvement facets were valid. From these, the scales measuring purchasing involvement and two of its facets were also reliable.

***Buyer Involvement Profiles**

Kapferer and Laurent's framework was used as the basis for segmenting the market for five cheese categories (Feta cheese, Hard cheese, Soft cheese, Graviera cheese and Kaseri cheese) by constructing buyer involvement profiles, comprising scores on purchasing involvement and two of its facets, as the segmentation descriptors. Identified segments were described as 'Low Buyer Profile' and 'High Buyer Profile'. However, it should be mentioned here that, this distinction is independent of previous research related to 'high' and 'low' involvement (Krugman, 1979; Lilien *et al*, 1992). This is because this researcher agrees with Laurent and Kapferer (1985) that segmentation based on Involvement Profiles provides more complete information on the diversity of the market than does segmentation based only on 'high' vs. 'low' involvement segments.

11.5 Managerial Implications

*** Sample Representativeness and Target Markets**

Due to reasons related to product availability, population concentration and resource constraints, the research was focused on Athens. The qualitative survey certified that, in the area of Athens, cheese buyers are mainly the female members of the household responsible for food purchase. Often, they are also users of the product (when this is used as an ingredient in various recipes), and consumers. Furthermore, they are aware of the position of cheese products in the meals of other members of the household. Consequently, the sample for the quantitative survey comprised female members of the household responsible for cheese purchase. However, as lifestyles change, marketers should explore the potential of the male cheese buyer market. Further, while Athens comprises half of the total population of Greece, research of the type undertaken in this thesis could provide useful information in relation to different communication strategies that might be used in different regions of the country.

***Measurement Scales**

The measurement scales developed for this dissertation are valid and illustrate the existence of certain underlying constructs that represent:

- the buyer's interest in cheese purchase;

- and some factors related to the goals that buyers seek to fulfil through purchase.

Only three out of four of these scales, however, are reliable at acceptable levels. Furthermore, Churchill (1979) suggests that reliability levels should be high if the scales are to be used for commercial purposes. Further research needs to be undertaken to improve scale reliability although the scales for which the reliability, levels are acceptable are usable, now, in understanding market segmentation analysis.

*** Developing Marketing Strategies for Cheese Products**

In this dissertation, guidelines have been provided on how marketing managers can use a purchasing involvement framework to describe products, to segment markets and to develop communication strategies. Qualitative research, applied where necessary, can give more insight into these issues, at relatively low cost. Further investigation into how purchasing involvement and its facets are related to certain aspects of purchasing behaviour, such as, brand awareness and loyalty, information-seeking, and choice of retailer's outlets, can provide an essential input into the selection of more effective promotion methods. The relevant literature suggests that the level of involvement by the product purchaser can influence the effectiveness of advertising, while knowledge of this involvement level can help the advertising manager to choose the message and the advertising media (Lilien *et al*, 1992). This knowledge can be complemented with information related to cheese Product Purchasing Involvement Profiles; for example, an examination of cheese Product Purchasing Involvement Profiles in the context of a company's own, and competitors, advertisements could provide an important input into decisions relating to product positioning.

11.6 Limitations of this Research

The development and testing of the measurement scales used in this research are only at an initial stage. The scale measuring utility due to convenience and price, for instance, needs further improvement regarding its reliability, and the same holds for the scales measuring purchasing involvement and, self-expression and confidence. The scale measuring importance of the product for the household shows relatively high reliability, still, improvements are needed if it is to be used for commercial use.

Further, the development of scales related to risk, and pleasure through purchase, can provide further insights into the product class and market under consideration.

Further limitations of the research concern the exploration of the relationships between purchasing involvement and its facets, and behavioural aspects such as: interest in advertisement, extent of the purchase decision process, brand loyalty and information-seeking. Such relationships, could have been investigated by applying Mittal and Lee's (1989) 'causal model of involvement'. A major reason for not doing so was that this dissertation was only a first attempt to investigate the product class and market under investigation within an involvement framework. Thus, at this initial stage, attention has been focused on, first, identifying concepts which are relevant to the product class and market and, second, in developing valid and reliable measurement scales for these constructs. This is crucial, before using the constructs under consideration in further analyses and models.

Further research work could also focus upon identifying relationships between purchasing involvement and its facets and other variables used in market segmentation, such as demographics (following Slama and Tashchian's, 1985, framework). Buyer Involvement Profiles could be analysed in relation to these additional variables.

Finally, because a purchasing involvement-related framework has not been previously developed and used for the product class and market under investigation, previous results with which this dissertation findings could be compared are not available. It is hoped that the findings reported in this dissertation will provide the ground for such comparisons in the future.

11.7 Suggestions for Further Research

This dissertation was a first attempt to investigate purchasing behaviour for cheese in Greece using an involvement-related framework. Further research undertaken either by academics or, indeed, by the cheese industry may further enlighten aspects of cheese purchasing behaviour. To summarise points already made in previous chapters and paragraphs, further research might focus on:

- improving the reliability of measurement scales used in this dissertation. Qualitative and quantitative surveys might be undertaken for this reason, depending on time and financial constraints;
- the improvement in the conceptualisation of some of the concepts identified, such as: self-expression and confidence;
- the exploration of purchasing behaviour aspects such as: information seeking, interest in advertisement, sources of information and length of purchase decision process, in relation to Buyer Involvement Profiles;
- analysis of variance, including purchasing involvement variables and demographics;
- brand involvement analysis in relation to certain aspects of purchasing behaviour (e.g., information-seeking, brand awareness and loyalty);
- the usage of this analytical framework in other areas of Greece, taking into consideration peculiarities related to direct 'farmer-consumer' trading and non-availability of some of the products.

A general model of factors that might influence the purchasing decision process would include elements related to the buyer (e.g., personality, demographics, motives, attitudes, involvement and involvement facets), to the product (e.g., observable and imaginary attributes, promotion, price), to other market participants (e.g., point of sale, other products available) and to the general macro-economic and political environment (e.g., regulations on production and trading). Clearly, an examination of all aspects that might influence purchasing behaviour for the product class and market under consideration was beyond the time and financial constraints of this dissertation.

This research leads to the conclusion that a theoretical framework related to purchasing involvement and its facets can be used effectively in the investigation of cheese purchasing behaviour in Athens, Greece. Future research, however, could focus on developing causal models that relate purchasing involvement and its facets to other factors that might influence this behaviour.

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APPENDIX 1. MAP OF TRADITIONAL GREEK CHEESES



Source: Food and Beverages, Galaktokomia (3), 1993, p.33.

APPENDIX 2. INVOLVEMENT MEASUREMENT SCALES

In this Appendix, various scales measuring involvement related concepts are presented, as found in the relevant theory (Mittal, 1989a; Bloch, 1981; Dimanche *et al*, 1991; Zaichkowsky, 1985a; Slama and Tashcian,1985) and summarised by Bearden *et al* (1992).

Involvement with a Product Class - Automobiles: IPCA

(Bloch 1981)

This scale is comprised of 17 Likert-items (strongly agree - strongly disagree) scored on a six-point format.

1) It is worth the extra cost to drive an attractive and attention-getting car.

2) I prefer to drive a car with a strong personality of its own.

3) I have sometimes imagined being a race driver.

4) Cars offer me relaxation and fun when life's pressures build up.

5) Sometimes I get too wrapped up in my car.

6) Cars are nothing more than appliances* .

7) I generally feel a sentimental attachment to the cars I own.

8) Driving my car is one way I often use to relieve daily pressures.

9) I do not pay much attention to car advertisements in magazines or on TV*.

10) I get bored when other people talk to me about their cars*.

11) I have little or no interest in car races*.

12) Driving along an open stretch of road seems to 'recharge' me in body, mind and spirit.

13) It is natural that young people become interested in cars

14) When I'm with a friend, we often end up talking about cars.

15) I don't like to think of my car as being ordinary.

16) Driving my car is one of the most satisfying and enjoyable things to do.

17) I enjoy discussing cars with my friends.
Note: * denotes items that are reverse scored

Components of Involvement: CP

(Lastovicka and Gardner, 1979)

This scale is comprised of 22 Likert-items (strongly agree - strongly disagree) scored on a seven-point format.

1) This is a product that I could talk about for a long time.

2) I understand the features well enough to evaluate the brands.

3) This is a product that interests me.

4) I have a preference for one or more brands in this product class.

5) This is a product for which I have no need whatsoever*.

6) I am not at all familiar with this product*.

7) I usually purchase the same brand within the product class.

8) If I had made a brand choice in this product class before actually making the purchase, I might easily change my intended choice upon receiving discrepant information*.

9) If I received information that was contrary to my choice in this product class, I would - at all costs- keep my choice.

10) I can protect myself from acknowledging some basic truths about myself by using this product*.

11) If my preferred brand in this product class is not available at the store, it makes little differences to me if I must choose another brand*.

12) My use of this product allows other to see me as I would ideally like them to see me.

13) This product helps me attain the type of life I strive for.

14) I can make many connections or associations between experiences in my life and this product.

15) I definitely have a 'wanting' for this product.

16) If evaluating brands in this class, I would examine a very long list of features.

17) I use this product to define and express the 'I' and 'me' within myself.

18) I rate this product as being of the highest importance to me personally.

19) Because of my personal values, I feel that this is a product that *ought* to be important to me.

20) Use of this product helps me behave in the manner that I would like to behave.

21) Because of what others think, I feel that this is a product that should be important to me.

22) Most of the brands in this product class are all alike*.
Note: * denotes items that are reversed scored.

Consumer Involvement Profiles: CIP

Laurent and Kapferer 1985

This scale is comprised of 16 Likert-items (strongly agree - strongly disagree) scored on a five-point format.

1) When you choose -----, it is not a big deal if you make a mistake*.

2) It is really annoying to purchase ----- that are not suitable.

3) If, after I bought -----, my choice(s) prove to be poor, I would be really upset.

4) Whenever one buys -----, one never really knows whether they are the ones that should have been bought.

5) When I face a shelf of -----, I always feel a bit at a loss to make my choice.

6) Choosing ----- is rather complicated.

7) When one purchases -----, one is never certain of one's choices.

8) You can tell a lot about a person by the ----- he or she chooses.

9) The ----- I buy gives a glimpse of the type of man/women I am.

10) The ----- you buy tells a little bit about you.

11) It gives me pleasure to purchase -----.

12) Buying ----- is like buying a gift for myself.

13) ----- is somewhat of a pleasure to me.

14) I attach great importance to -----.

15) One can say ----- interests me a lot.

16) ----- is a topic which leaves me totally indifferent*.
Note: * denotes items reversed scored.

Personal Involvement Inventory: PII

Zaichkowsky, 1985

This scale is comprised of 20 semantic differential items scored on seven-point scales.

1) important ---:---:---:---:---:---:--- **unimportant***

2) of no concern ---:---:---:---:---:---:--- **of concern to me**

3) irrelevant ---:---:---:---:---:---:--- **relevant**

4) means a lot to me ---:---:---:---:---:---:---**means nothing to me***

5) useless---:---:---:---:---:---:--- **useful**

6) valuable ---:---:---:---:---:---:--- **worthless***

7) trivial---:---:---:---:---:---:--- **fundamental**

8) beneficial ---:---:---:---:---:---:--- **not beneficial***

9) matters to me ---:---:---:---:---:---:--- **doesn't matter***

10) uninterested ---:---:---:---:---:---:--- **interested**

11) significant ---:---:---:---:---:---:--- **insignificant***

12) vital ---:---:---:---:---:---:--- **superfluous***

13) boring ---:---:---:---:---:---:--- **interesting**

14) unexciting ---:---:---:---:---:---:--- **exciting**

15) appealing ---:---:---:---:---:---:--- **unappealing***

16) mundane ---:---:---:---:---:---:--- **fascinating**

17) essential ---:---:---:---:---:---:--- **nonessential***

18) undesirable ---:---:---:---:---:---:--- **desirable**

19) wanted ---:---:---:---:---:---:--- **unwanted***

20) not needed ---:---:---:---:---:---:--- **needed**

Note: * denotes items that are reversed scored.

RPII AND OPII (MODIFICATIONS OF PII)
(McQuarrie and Munson, 1986)

This scale is comprised of 22 semantic differential items scored on seven-point scales

1) important ---:---:---:---:---:---:--- **unimportant***

2) of no concern ---:---:---:---:---:---:--- **of concern to me**

3) irrelevant ---:---:---:---:---:---:--- **relevant**

4) means a lot to me ---:---:---:---:---:---:---**means nothing to me***

5) valuable ---:---:---:---:---:---:--- **worthless***

6) beneficial ---:---:---:---:---:---:--- **not beneficial***

7) matters to me ---:---:---:---:---:---:--- **doesn't matter***

8) uninterested ---:---:---:---:---:---:--- **interested**

9) boring ---:---:---:---:---:---:--- **interesting**

10) unexciting ---:---:---:---:---:---:--- **exciting**

11) appealing ---:---:---:---:---:---:--- **unappealing***

12) mundane —:—:—:—:—:—:— fascinating

13) essential —:—:—:—:—:—:— nonessential*

14) undesirable —:—:—:—:—:—:— desirable

15) wanted —:—:—:—:—:—:— unwanted*

16) not needed —:—:—:—:—:—:— needed
17) fun —:—:—:—:—:—:— not fun
18) says nothing about a person —:—:—:—:—:—:— shows nothing about me
19) tells me about a person —:—:—:—:—:—:— shows nothing*
20) easy to go wrong —:—:—:—:—:—:— hard to go wrong*
21) not risky —:—:—:—:—:—:— risky
22) easy to choose —:—:—:—:—:—:— hard to pick
Notes: * denotes items that are reversed scored.
Items 1 through 16 comprise the OPII.

PERSONAL II FOR ADVERTISING:PIIA
Zaichkowsky, 1990
This scale is comprised of 10 semantic differential items scored on a seven-point basis.
1) important—:—:—:—:—:—:— unimportant*
2) boring —:—:—:—:—:—:— interesting
3) relevant—:—:—:—:—:—:— irrelevant*
4) exciting —:—:—:—:—:—:— unexciting*
5) means nothing —:—:—:—:—:—:— means a lot to me
6) appealing —:—:—:—:—:—:— unappealing*
7) fascinating —:—:—:—:—:—:— mundane*
8) worthless—:—:—:—:—:—:— valuable
9) involving—:—:—:—:—:—:— uninvolving*
10) not needed —:—:—:—:—:—:— needed
Notes: * denotes items that are reversed scored.

PURCHASE DECISION INVOLVEMENT: PDI
(Mittal, 1989a)
This is a 4-item measure on seven-point bi-polar phrases.
1) In selecting from many types and brands of this product available in the market, would you say that:
I would not care at all 1 2 3 4 5 6 7 I would care a great deal as to which one I buy.

2) Do you think that the various types and brands of this product available in the market are all very alike or are they all different?
They are alike 1 2 3 4 5 6 7 They are all different.

3) How important would it be to you to make a right choice of this product?
Not at all important 1 2 3 4 5 6 7 Extremely important.

4) In making your selection of this product, how concerned would you be about the outcome of your choice?
Not at all concerned 1 2 3 4 5 6 7 Very much concerned.

APPENDIX 3. SELECTING THE SAMPLE OF THE QUANTITATIVE SURVEY

The quantitative survey for this research was undertaken by a market research company in Athens (Centrum Yankelovich, Ltd.). The sample was stratified according to socio-economic class:

- 20 % upper middle class;
- 50 % middle and lower middle class;
- 30 % working class.

The streets included in the survey were randomly selected from the maps and directories of the National Statistical Service. The following neighbourhoods were included in the survey:

Upper middle and upper class:

Holargos, Papagou, Halandri, Agia Paraskevi, Vrilissia, Glyfada

Middle and lower middle class:

Kipseli, Hracklio, Pagrati, Kallithea, Patisia, N. Smirni, Hlioupoli, Kallithea, Pireus (Terpsithea), Phaliro, Agios Sostis, Koukaki, Ampelokipi.

Working class:

Peristeri, Petralona, Agios Dimitrios, Keratsini, Nea Liosia, Kolonos, Nikaia, Nea Ionia, Vironas.

The choice of the households to be included in the survey in each of the selected streets was undertaken as follows: the enumerator called at every third household. If there was a negative response, or if there was nobody eligible to answer, the enumerator had to continue to the next household. If there was a block of apartments (very common in Athens), the enumerator had to begin the same procedure from the upper floor and continue to the ground floor. In the next block of apartments, the enumerator had to begin from the ground floor and continue to the upper floor, etc.

APPENDIX 4. THE QUESTIONNAIRE (ENGLISH VERSION)

The questionnaire was divided into five parts, viz.:

Introduction. In this part, directions were given to the enumerator about how to introduce him/herself to the respondent. Also, directions were given regarding how the questionnaire should be completed:

> **For the enumerator: "You are looking for female members of the household responsible for cheese shopping".**

Section A. Purchasing Behaviour : which types of cheese are purchased by the respondent and how often. The aim of this part was to identify which cheese categories the buyer purchases more often. Sections B and C are then completed for each one of these categories. The maximum number of categories is two and the minimum one. The directions for the enumerator were as follows:

> **For the enumerator: "For the next sections the questionnaire should be completed for two cheese categories. If the respondent buys more than two categories, then, you complete the questionnaire for the categories most frequently purchased (Question 3). If she buys with the same frequency more than two types of cheese, then, the respondent will choose for which two types she wishes to be questioned. The questionnaire cannot be completed more than once for each one of the categories Hard and Soft cheese. If some cheese category is purchased only from a village, then ,another category must be chosen".**

Section B. Way and frequency of usage per cheese category. Information on way and frequency of usage for the cheese categories that the questionnaire was completed for was asked in this part of the questionnaire.

Section C. Purchasing Involvement and Purchasing Involvement Facet measurement scales.

Section D. Demographic characteristics.

SECTION A: Question 1. Which one of the cheeses included on this card do you, personally, buy?
Question 2. How often do you, personally, buy this category:

	Buys		Frequency of Purchase						Only from village		Category (-ies chosen t complete th questionnaire for	
	YES	NO	Twice o more week	Once weekly	Once every 10 o 15 days	Once ever 20 days o monthly	Less tha once monthly	I don't know /n answer	YES	NO	YES	NO
Feta	1	0	5	4	3	2	1	9	1	0	1	0
Hard Cheese									1	0	1	0
Kefalotyri	1	0	5	4	3	2	1	9				
Kefalograviera	1	0	5	4	3	2	1	9				
Hard Mizithra	1	0	5	4	3	2	1	9				
Pecorino	1	0	5	4	3	2	1	9				
Parmezana	1	0	5	4	3	2	1	9				
Kerrygold	1	0	5	4	3	2	1	9				
Reggato	1	0	5	4	3	2	1	9				
Gruyère	1	0	5	4	3	2	1	9				
Soft Cheese											1	0
Gouda	1	0	5	4	4	2	1	9				
Emmental	1	0	5	4	4	2	1	9				
Edam	1	0	5	4	4	2	1	9				
Slices for Toast	1	0	5	4	4	2	1	9				
Yellow soft chees (doesn't know th type	1	0	5	4	4	2	1	9				
Kaseri	1	0	5	4	3	2	1	9	1	0	1	0
Graviera	1	0	5	4	3	2	1	9	1	0	1	0
Foreign Cheeses												
White cheese i brine	1	0	5	4	3	2	1	9				
Mozarella												
Roquefort	1	0	5	4	4	2	1	9				
Blue Cheese	1	0	5	4	4	2	1	9				
Brie	1	0	5	4	4	2	1	9				
Camembert	1	0	5	4	4	2	1	9				
	1	0	5	4	4	2	1	9				
Spreads												
La vache qui rit	1	0	5	4	3	2	1	9	1	0		
Linea	1	0	5	4	3	2	1	9	1	0		
Philadelphia	1	0	5	4	3	2	1	9	1	0		
Traditional Greek Cheeses												
Mizithra	1	0	5	4	3	2	1	9	1	0		
Anthotyro	1	0	5	4	3	2	1	9	1	0		
Ladotyri	1	0	5	4	3	2	1	9	1	0		
Manouri	1	0	5	4	3	2	1	9	1	0		
etc.												
Other	1	0	5	4	3	2	1	9	1	0		

Question 3. How much for each one of these cheeses do you buy each time? (Card A)
*** for the enumarator: ask for the cheeses she said she buys in the previous question. In each cell the higher quanities are included.**

	Quantity					
	250 grs or less	Between 250 grs and 500 grs	Between 500 grs and 750 grs	Between 750 grs and 1000 grs	More than 1000 grs	Idon't know/ no answer
Feta	1	2	3	4	5	9
Hard Cheese						
Kefalotyri	1	2	3	4	5	9
Kefalograviera	1	2	3	4	5	9
Skliri Mizithra	1	2	3	4	5	9
Pecorino	1	2	3	4	5	9
Parmezana	1	2	3	4	5	9
Kerrygold	1	2	3	4	5	9
Reggato	1	2	3	4	5	9
Gruyère	1	2	3	4	5	9
Soft Cheese						
Gouda	1	2	3	4	5	9
Emmental	1	2	3	4	5	9
Edam	1	2	3	4	5	9
Slices for Toast	1	2	3	4	5	9
Yellow soft cheese (does not know the type	1	2	3	4	5	9
Kaseri	1	2	3	4	5	9
Graviera	1	2	3	4	5	9
Foreign Cheeses						
White cheese in brine	1	2	3	4	5	9
Mozarella						
Roquefort	1	2	3	4	5	9
Blue Cheese	1	2	3	4	5	9
Brie	1	2	3	4	5	9
Camembert	1	2	3	4	5	9
	1	2	3	4	5	9
Spreads						
La vache qui rit	1	2	3	4	5	9
Linea	1	2	3	4	5	9
Philadelphia	1	2	3	4	5	9
Traditional Greek Cheeses						
Mizithra	1	2	3	4	5	9
Anthotyro	1	2	3	4	5	9
Ladotyri	1	2	3	4	5	9
Manouri	1	2	3	4	5	9
etc.						
Other	1	2	3	4	5	9

SECTION B: Question 4. How do you use .....?[102]
Question 5. How often?

	With the meal		Pies		Ingredient in Pizza and Souces		Mezes		Omelette		Toast/Sandwich		With Bread		In Salads		Grated in spaggetti		Other	
Usage (Qu.4)	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	1	0	1	2	1	0	1	2	1	0	1	2	1	0	1	2	1	0	1	2
Frequency of Usage (Qu. 5)																				
Twice or more weekly	5		5		5		5		5		5		5		5		5		5	
Once weekly	4		4		4		4		4		4		4		4		4		4	
Once every 10 or 15 days	3		3		3		3		3		3		3		3		3		3	
Once every 20 days or monthly	2		2		2		2		2		2		2		2		2		2	
Less than once monthly	1		1		1		1		1		1		1		1		1		1	
I dont' know/ no answer	9		9		9		9		9		9		9		9		9		9	

[102] This part of the questionnaire was repeated 5 times in each questionnaire - one for each cheese category under investigation. The name of each category (i.e., Feta, Hard cheese, Soft cheese, Graviera cheese, Kaseri cheese) was written on the top right of each sheet. Thus, for example, if the respondent was answering the questionnaire for Feta cheese and Kaseri cheese, the two sheets with these categories written in the top right should be completed.

SECTION C: Question 5. I would like,now, to read to you some phrases that other buyers said about ——[103]. Can you tell me how much you agree or disagree with these phrases. You can choose your answer from this Card. **Enumerator: show card B. The answer 'neutral: I don't either disagree or agree' is not included in the card. Tick this answer only if the respondent says that she is neutral spontaneously.**

	I Strognly disagree	I disagree	Neither agree or disagree	I agree	I strongly agree	I dont'know /no answer
All — found in the market are similar .	1	2	3	4	5	9
From various — found in the market, it does not really matter which one I choose .	1	2	3	4	5	9
In relation to other foodstuffs, it is important to choose a good —.	1	2	3	4	5	9
—— is important for my household .	1	2	3	4	5	9
——is basic foodstuff for my household .	1	2	3	4	5	9
——is an important part of my households menus.	1	2	3	4	5	9
I know that the — that I buy is made from good ingredients and I trust it .	1	2	3	4	5	9
I am used to buying and I know the types and quantities sold in the market.	1	2	3	4	5	9
I usually talk to other people for the —I select.	1	2	3	4	5	9
I attract good comments when I offer it or use it in recipes	1	2	3	4	5	9
I buy it because it is convenient, I can use it in many ways.	1	2	3	4	5	9
I buy it because I can use it in various ways so it offers solutions.	1	2	3	4	5	9
I buy it because it is good value for money.	1	2	3	4	5	9

Enumerator: Read the statements from the last to the first[104]
Question 6. Do you buy branded ————?
Enumerator: If yes in Question 6, proceed to question 7, otherwise go to Section D.
Question 7. Which brand do you usually buy?

SECTION D:
Question 8. Demographic characteristics
i) Are you : Single 1
Married 2
Widow 3
You cohabit 4
No answer 9

---

[103] This part of the questionnaire was repeated 5 times in each questionnaire - one for each cheese category under investigation. The name of each category (i.e., Feta, Hard cheese, Soft cheese, Graviera cheese, Kaseri cheese) was written on the top write of each sheet. Thus, for example, if the respondent was answering the questionnaire for Feta cheese and Kaseri cheese, the two sheets with these categories written in the top right should be completed.

[104] This phrase was included in half of the questionnaires.

ii) I would like to ask some information about the members of this household:

How many members belong to this household?.....

	Respondent	2nd member	3rd member	4th member	5th member
Position in the Family					
1. Main imcome earner	1	1	1	1	1
2. Wife/Husband	2	2	2	2	2
3. Child	3	3	3	3	3
4. Other relative	4	4	4	4	4
5. Tenant	5	5	5	5	5
Sex					
Male	1	1	1	1	1
Female	2	2	2	2	2
Age					
Education					
Non literate	1	1	1	1	1
Primary School	2	2	2	2	2
Gymnasium	3	3	3	3	3
Lyčèum	4	4	4	4	4
Polytechnique	5	5	5	5	5
University	6	6	6	6	6
Proffesion					
Owner/managing director of firm with more than 10 employees	1	1	1	1	1
Owner/managing director of firm with less than 10 employees	2	2	2	2	2
Self employed	3	3	3	3	3
Free lancer	4	4	4	4	4
Manager/other equal	5	5	5	5	5
Teacher	6	6	6	6	6
Worker	7	7	7	7	7
Farmer	8	8	8	8	8
Student	9	9	9	9	9
Housewife	10	10	10	10	10
Non working	11	11	11	11	11
Unemployed	12	12	12	12	12
Retired	13	13	13	13	13

iii) Could you please tell me what is the monthly income of your household? enumerator: show Card C.

iv) Could you please tell me what is your personal income per month? enumerator : show Card C.

v) Name of respondent.....

Adress.....Tel. No:.....

Area..... Date of interview.....

Name of Enumerator.....Code.....

Name of Controller..... .....Result of Control.....

APPENDIX 5. A BRIEF DESCRIPTION OF THE QUANTITATIVE SURVEY SAMPLE

I. Respondents Characteristics

- **Some Descriptive Information about Respondents Characteristics**

In the following paragraphs, respondents' characteristics (i.e., age, marital status, position in the family, occupation and education) and households attributes (i.e., size, number of children and income) are presented.

- **Age Group**

In Table A5.1, respondents age groups distribution is presented, together with the general female population age distribution as reported in the 1991 census.

Table A5.1. Age Group of Respondents Compared with 1991 Census Groupings

Age groups (years)	% of respondents	% of age groups according to 1991 general population census
18-24	4	13
25 - 34	22	24
35 - 44	27	22
45 - 54	21	24
55 - 65	26	17

It can be observed that almost a quarter of the respondents belong to the oldest age group (55-65 years old) while only 4.3 percent are between 18 and 24 years old - figures that are at odds with census figures. However, the age distribution of the sample is considered acceptable, given that the specific sample characteristics and Greek family structure. In details:

1) the census results reflect female population age distribution across the country and not specifically in the area of Athens. The survey under consideration concerns female members of the household responsible for food shopping;

2) regarding the low percentage of 18-24 years old respondents and the high percentage of 55-64 years old, this can be explained by the structure of the Greek society. More precisely, it is common for young single adults to continue living with their parents; this, is either because they are students in one of the Athenian Universities, or because they cannot afford to live on their own. Irrespective and, typically, the 'senior' female of the household is responsible for food purchases. Close to 40 percent of the household members declared by respondents as "children" are, in fact, young adults above 18 years old.

- **Marital Status and Position in the Family**

Nearly 5 percent of the respondents are single, while 82.7, 8, and 3 percent are married, widowed or divorced, respectively. Regarding the respondents position in the family, 14 percent declared themselves as heads of the household, 84 percent as wives.

- **Occupation**

Forty one out of the three hundred respondents are retired. From the professionally active, sixty eight percent are housewives. Of the remainder, 7 percent work for the public sector, 17 percent for the private sector while 8.5 percent are self-employed or freelancers.

- **Education**

Regarding respondents educational level, 0.7 percent never went to school, 34 percent only went to primary school, while 9 percent finished the first three years of secondary school. Forty percent of the sample finished the secondary school, 7 percent polytechniques, and 10 percent declared that the had an university level education.

II. HOUSEHOLD CHARACTERISTICS

- **Size**

The sample average family size consisted of 3.2 members (compared with 3.12 for the 1981 general population census) - see Table A5.2.

Table A5.2. Number of Household Members

Number of household members	% of respondents households
1	6
2	21
3	25
4	38
5	10

- **Number of children**

There were children in 73.3 percent of the respondents households. The number of children in each household is presented in the following table

Table A5.3. Number of Children

Number of children (mean = 1.7)	% of households
1	35
2	53
3	11
4	1

- **Income**

Twenty percent of the respondents did not give any information about household financial status. For these reporting household income, information is presented in Table A5.4.

Table A5.4. Respondents' Household Income

Range of Income (Greek Drs)	Cases	Percentage
0 - 50000	1	0.3
50001 - 100000	19	6.3
100001-150000	30	10
151000-200000	59	19.7
201000-250000	41	13.7
250001-300000	33	11.0
300001-400000	30	10.0
400001-500000	19	6.3
500000+	6	2.0
Total	238	79.3 (of 300)

APPENDIX 6. A FINAL COMMENT REGARDING TESTS OF SCALES RELIABILITY AND VALIDITY

It was said elsewhere in this dissertation that, for some researchers (Peterson, 1994; Churchill, 1979), a reliable scale, is also a valid scale. This assumes no measurement errors. However, this is not often the case in market research (see Section 8.3.1.3). In our case both reliability and validity were tested for the scales that were developed to measure purchasing involvement and for three purchasing involvement facets. Cronbach's coefficient alpha and factor analysis have been chosen as the most appropriate reliability and validity measures for the purposes of this dissertation (Chapter 5).

An issue sometimes raised by researchers concerns which of the two measures (i.e., Cronbach's alpha or Factor Analysis) should be first applied to a scale. Bloch (1981) states that, commonly, a factor analysis is first applied to data, to test scale validity and the relevance of constructs initially conceptualised. For example, in the case of scales developed for this research, a factor analysis is expected to reveal four factors, one for each construct initially conceptualised; that is, one factor for purchasing involvement, and three factors representing purchasing involvement facets (i.e., importance, self-expression and confidence and utility due to convenience and price). He argues, however, in favour of Churchill's (1979) position that Cronbach's coefficient alpha should be first calculated to help researchers to identify those items of the scale that increase its validity and delete these that do not do so - and, then, to check the dimension initially conceptualised through a factor analysis. In this way, Bloch argues, researchers avoid ambiguous, and difficult to interpret factors that might emerge due to the presence of irrelevant items. He explains that "it is Churchill's position that principal component analyses are more profitably employed after an internally consistent set of items is obtained via the assessment of coefficient alpha" (1981, p.63).

However, is this the best sequence of actions researchers should follow? Consider, for example, Laurent and Kapferer's (1985) effort to develop two different scales capturing 'perceived importance of the product' (4 items) and 'risk importance' (3 items). A factor analysis showed that the items used to capture these constructs displayed trait validity (i.e., each scale loaded on one factor only), but not discriminant validity, as they load on the same factor and not on two different ones. As a result, the researchers merged these items into a single scale of seven items. This produced a Cronbach's alpha of 0.87 in the reliability analysis. They did not report the reliability for the three and four items separately. There is, however, the possibility that the two scales might result in low Cronbach's alpha coefficients if they were examined individually. If these items were eliminated from subsequent factor analyses due to low Cronbach's coefficient alpha, the scale measuring what Kapferer and Laurent called 'imporisk' would not have emerged.

Without doubt, Bloch and Churchill's suggestions help researchers to avoid the misuse of factor analysis in a GIGO way. However, and especially in early stages of research, deletion of items should be treated with care as complex dimensions merging, unexpectedly, in newly developed scales might indicate existing dimensions not foreseen by the researcher, often corresponding to characteristics of the product and/or the market under examination.

APPENDIX 7. ITEM PER ITEM ANALYSIS OF MEASUREMENT SCALES - PER CHEESE CATEGORY

- **FETA CHEESE**

PINV1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	120	55.8	55.8	55.8
	2.00	73	34.0	34.0	89.8
	3.00	2	.9	.9	90.7
	4.00	15	7.0	7.0	97.7
	5.00	5	2.3	2.3	100.0
	Total	215	100.0	100.0	

Mean 1.660 Std err .066 Std dev .972 Skewness 1.804 S E Skew .166
Minimum 1.000 Maximum 5.000

PINV2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	77	35.8	35.8	35.8
	2.00	69	32.1	32.1	67.9
	3.00	4	1.9	1.9	69.8
	4.00	34	15.8	15.8	85.6
	5.00	31	14.4	14.4	100.0
	Total	215	100.0	100.0	

Mean 2.409 Std err .100 Std dev 1.466 Skewness .683 S E Skew .166
Minimum 1.000 Maximum 5.000

PINV3[105]

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	173	80.5	80.5	80.5
	2.00	34	15.8	15.8	96.3
	3.00	2	.9	.9	97.2
	4.00	5	2.3	2.3	99.5
	5.00	1	.5	.5	100.0
	Total	215	100.0	100.0	

Mean 1.265 Std err .044 Std dev .641 Skewness 3.138 S E Skew .166
Minimum 1.000 Maximum 5.000

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[105] reverse scored.

EXPR1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	10	4.7	4.7	4.7
	2.00	10	4.7	4.7	9.3
	3.00	14	6.5	6.5	15.8
	4.00	94	43.7	43.7	59.5
	5.00	87	40.5	40.5	100.0
	Total	215	100.0	100.0	

Mean 4.107 Std err .070 Std dev 1.033 Skewness -1.498 S E Skew .166
Minimum 1.000 Maximum 5.000

EXPR2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	8	3.7	3.7	3.7
	2.00	19	8.8	8.8	12.6
	3.00	14	6.5	6.5	19.1
	4.00	92	42.8	42.8	61.9
	5.00	82	38.1	38.1	100.0
	Total	215	100.0	100.0	

Mean 4.028 Std err .073 Std dev 1.067 Skewness -1.243 S E Skew .166 Minimum 1.000 Maximum 5.000

EXPR3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	23	10.7	10.7	10.7
	2.00	18	8.4	8.4	19.1
	3.00	16	7.4	7.4	26.5
	4.00	90	41.9	41.9	68.4
	5.00	68	31.6	31.6	100.0
	Tottal	215	100.0	100.0	

Mean 3.753 Std err .087 Std dev 1.279 Skewness -1.017 S E Skew .166
Minimum 1.000 Maximum 5.000

EXPR4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	16	7.4	7.4	7.4
	2.00	14	6.5	6.5	14.0
	3.00	19	8.8	8.8	22.8
	4.00	84	39.1	39.1	61.9
	5.00	82	38.1	38.1	100.0
	Total	215	100.0	100.0	

Mean 3.940 Std err .081 Std dev 1.184 Skewness -1.211 S E Skew .166
Minimum 1.000 Maximum 5.000

IMPR1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	1	.5	.5	.5
	2.00	1	.5	.5	.9
	3.00	2	.9	.9	1.9
	4.00	38	17.7	17.7	19.5
	5.00	173	80.5	80.5	100.0
	Total	215	100.0		100.0

Mean 4.772 Std err .036 Std dev .529 Skewness -3.240 S E Skew .166
Minimum 1.000 Maximum 5.000

IMPR2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	1	.5	.5	.5
	2.00	1	.5	.5	.9
	3.00	4	1.9	1.9	2.8
	4.00	39	18.1	18.1	20.9
	5.00	170	79.1	79.1	100.0
	Total	215	100.0	100.0	

Mean 4.749 Std err .038 Std dev .557 Skewness -2.959 S E Skew .166
Minimum 1.000 Maximum 5.000

IMPR3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	1	.5	.5	.5
	2.00	2	.9	.9	1.4
	3.00	3	1.4	1.4	2.8
	4.00	39	18.1	18.1	20.9
	5.00	170	79.1	79.1	100.0
	Total	215	100.0	100.0	

Mean 4.744 Std err .039 Std dev .576 Skewness -3.040 S E Skew .166
Minimum 1.000 Maximum 5.000

- **HARD CHEESE**

PINV1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	59	44.7	44.7	44.7
	2.00	54	40.9	40.9	85.6
	3.00	4	3.0	3.0	88.6
	4.00	6	4.5	4.5	93.2
	5.00	9	6.8	6.8	100.0
	Total	132	100.0	100.0	

Mean	1.879	Std err	.098	Std dev	1.126	Skewness	1.611	S E Skew	.211
Minimum	1.000	Maximum	5.000						

PINV2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	54	40.9	40.9	40.9
	2.00	46	34.8	34.8	75.8
	3.00	6	4.5	4.5	80.3
	4.00	18	13.6	13.6	93.9
	5.00	8	6.1	6.1	100.0
	Total	132	100.0	100.0	

Mean	2.091	Std err	.108	Std dev	1.245	Skewness	1.032	S E Skew	.211
Minimum	1.000	Maximum	5.000						

PINV3[106]

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	87	65.9	65.9	65.9
	2.00	37	28.0	28.0	93.9
	3.00	3	2.3	2.3	96.2
	4.00	3	2.3	2.3	98.5
	5.00	2	1.5	1.5	100.0
	Total	132	100.0	100.0	

Mean	1.455	Std err	.068	Std dev	.785	Skewness	2.364	S E Skew	.211
Minimum	1.000	Maximum	5.000						

EXPR1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	5	3.8	3.8	3.8
	2.00	12	9.1	9.1	12.9
	3.00	16	12.1	12.1	25.0
	4.00	63	47.7	47.7	72.7
	5.00	36	27.3	27.3	100.0
	Total	132	100.0	100.0	

Mean	3.856	Std err	.091	Std dev	1.042	Skewness	-1.022	S E Skew	.211
Minimum	1.000	Maximum	5.000						

EXPR2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	13	9.8	9.8	9.8
	2.00	17	12.9	12.9	22.7
	3.00	9	6.8	6.8	29.5
	4.00	56	42.4	42.4	72.0

[106] reverse scored.

5.00	37	28.0	28.0	100.0
Total	132	100.0	100.0	

Mean 3.659 Std err .112 Std dev 1.283 Skewness -.856 S E Skew .211
Minimum 1.000 Maximum 5.000

EXPR3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	24	18.2	18.2	18.2
	2.00	17	12.9	12.9	31.1
	3.00	13	9.8	9.8	40.9
	4.00	44	33.3	33.3	74.2
	5.00	34	25.8	25.8	100.0
	Total	132	100.0	100.0	

Mean 3.356 Std err .126 Std dev 1.452 Skewness -.491 S E Skew .211
Minimum 1.000 Maximum 5.000

EXPR4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	11	8.3	8.3	8.3
	2.00	15	11.4	11.4	19.7
	3.00	17	12.9	12.9	32.6
	4.00	46	34.8	34.8	67.4
	5.00	43	32.6	32.6	100.0
	Total	132	100.0	100.0	

Mean 3.720 Std err .110 Std dev 1.262 Skewness -.820 S E Skew .211
Minimum 1.000 Maximum 5.000

IMPR1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	3	2.3	2.3	2.3
	2.00	15	11.4	11.4	13.6
	3.00	4	3.0	3.0	16.7
	4.00	39	29.5	29.5	46.2
	5.00	71	53.8	53.8	100.0
	Total	132	100.0	100.0	

Mean 4.212 Std err .095 Std dev 1.091 Skewness -1.398 S E Skew .211
Minimum 1.000 Maximum 5.000

IMPR2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	3	2.3	2.3	2.3
	2.00	13	9.8	9.8	12.1
	3.00	8	6.1	6.1	18.2
	4.00	48	36.4	36.4	54.5
	5.00	60	45.5	45.5	100.0

Total	132	100.0	100.0	

Mean	4.129	Std err	.092	Std dev	1.051	Skewness	-1.262	S E Skew	.211
Minimum	1.000	Maximum	5.000						

IMPR3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	2	1.5	1.5	1.5
	2.00	12	9.1	9.1	10.6
	3.00	7	5.3	5.3	15.9
	4.00	50	37.9	37.9	53.8
	5.00	61	46.2	46.2	100.0
	Total	132	100.0	100.0	

Mean	4.182	Std err	.087	Std dev	.995	Skewness	-1.319	S E Skew	.211
Minimum	1.000	Maximum	5.000						

- **SOFT CHEESE**

PINV1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	31	34.1	34.1	34.1
	2.00	30	33.0	33.0	67.0
	3.00	2	2.2	2.2	69.2
	4.00	22	24.2	24.2	93.4
	5.00	6	6.6	6.6	100.0
	Total	91	100.0	100.0	

Mean	2.363	Std err	.141	Std dev	1.346	Skewness	.593	S E Skew	.253
Minimum	1.000	Maximum	5.000						

PINV2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	20	22.0	22.0	22.0
	2.00	31	34.1	34.1	56.0
	3.00	7	7.7	7.7	63.7
	4.00	23	25.3	25.3	89.0
	5.00	10	11.0	11.0	100.0
	Total	91	100.0	100.0	

Mean	2.692	Std err	.142	Std dev	1.356	Skewness	.307	S E Skew	.253
Minimum	1.000	Maximum	5.000						

PINV3 [107]

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	54	59.3	59.3	59.3
	2.00	23	25.3	25.3	84.6
	3.00	3	3.3	3.3	87.9
	4.00	7	7.7	7.7	95.6
	5.00	4	4.4	4.4	100.0
	Total	91	100.0	100.0	

Mean 1.725 Std err .118 Std dev 1.126 Skewness 1.662 S E Skew .253
Minimum 1.000 Maximum 5.000

EXPR1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	8	8.8	8.8	8.8
	2.00	12	13.2	13.2	22.0
	3.00	11	12.1	12.1	34.1
	4.00	42	46.2	46.2	80.2
	5.00	18	19.8	19.8	100.0
	Total	91	100.0	100.0	

Mean 3.549 Std err .126 Std dev 1.204 Skewness -.782 S E Skew .253
Minimum 1.000 Maximum 5.000

EXPR2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	11	12.1	12.1	12.1
	2.00	19	20.9	20.9	33.0
	3.00	7	7.7	7.7	40.7
	4.00	31	34.1	34.1	74.7
	5.00	23	25.3	25.3	100.0
	Total	91	100.0	100.0	

Mean 3.396 Std err .145 Std dev 1.381 Skewness -.437 S E Skew .253
Minimum 1.000 Maximum 5.000

EXPR3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	23	25.3	25.3	25.3
	2.00	16	17.6	17.6	42.9
	3.00	7	7.7	7.7	50.5
	4.00	26	28.6	28.6	79.1
	5.00	19	20.9	20.9	100.0
	Total	91	100.0	100.0	

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[107] reverse scored.

Mean	3.022	Std err	.160	Std dev	1.527	Skewness	-.114	S E Skew	.253
Minimum	1.000	Maximum	5.000						

EXPR4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	17	18.7	18.7	18.7
	2.00	13	14.3	14.3	33.0
	3.00	5	5.5	5.5	38.5
	4.00	37	40.7	40.7	79.1
	5.00	19	20.9	20.9	100.0
	Total	91	100.0	100.0	

Mean	3.308	Std err	.150	Std dev	1.435	Skewness	-.514	S E Skew	.253
Minimum	1.000	Maximum	5.000						

IMPR1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2.00	11	12.1	12.1	12.1
	3.00	4	4.4	4.4	16.5
	4.00	33	36.3	36.3	52.7
	5.00	43	47.3	47.3	100.0
	Total	91	100.0	100.0	

Mean	4.187	Std err	.104	Std dev	.988	Skewness	-1.165	S E Skew	.253
Minimum	2.000	Maximum	5.000						

IMPR2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	1	1.1	1.1	1.1
	2.00	15	16.5	16.5	17.6
	3.00	5	5.5	5.5	23.1
	4.00	35	38.5	38.5	61.5
	5.00	35	38.5	38.5	100.0
	Total	91	100.0	100.0	

Mean	3.967	Std err	.115	Std dev	1.100	Skewness	-.907	S E Skew	.253
Minimum	1.000	Maximum	5.000						

IMPR3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	2	2.2	2.2	2.2
	2.00	17	18.7	18.7	20.9
	3.00	3	3.3	3.3	24.2
	4.00	30	33.0	33.0	57.1
	5.00	39	42.9	42.9	100.0
	Total	91	100.0	100.0	

Mean	3.956	Std err	.125	Std dev	1.192	Skewness	-.920	S E Skew	.253
Minimum	1.000	Maximum	5.000						

- **GRAVIERA CHEESE**

PINV1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	15	83.3	83.3	83.3
	2.00	2	11.1	11.1	94.4
	3.00	1	5.6	5.6	100.0
	Total	18	100.0	100.0	

Mean 1.222 Std err .129 Std dev .548 Skewness 2.567 S E Skew .536
Minimum 1.000 Maximum 3.000

PINV2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	11	61.1	61.1	61.1
	2.00	3	16.7	16.7	77.8
	3.00	1	5.6	5.6	83.3
	4.00	1	5.6	5.6	88.9
	5.00	2	11.1	11.1	100.0
	Total	18	100.0	100.0	

Mean 1.889 Std err .332 Std dev 1.410 Skewness 1.495 S E Skew
.536 Minimum 1.000 Maximum 5.000

PINV3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	17	94.4	94.4	94.4
	2.00	1	5.6	5.6	100.0
	Total	18	100.0	100.0	

Mean 1.056 Std err .056 Std dev .236 Skewness 4.243 S E Skew .536
Minimum 1.000 Maximum 2.000

EXPR1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	1	5.6	5.6	5.6
	2.00	3	16.7	16.7	22.2
	4.00	5	27.8	27.8	50.0
	5.00	9	50.0	50.0	100.0
	Total	18	100.0	100.0	

Mean 4.000 Std err .313 Std dev 1.328 Skewness -1.186 S E Skew .536
Minimum 1.000 Maximum 5.000

EXPR2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	1	5.6	5.6	5.6
	2.00	1	5.6	5.6	11.1
	3.00	1	5.6	5.6	16.7
	4.00	8	44.4	44.4	61.1
	5.00	7	38.9	38.9	100.0
	Total	18	100.0	100.0	

Mean 4.056 Std err .262 Std dev 1.110 Skewness -1.572 S E Skew .536
Minimum 1.000 Maximum 5.000

EXPR3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2.00	3	16.7	16.7	16.7
	3.00	2	11.1	11.1	27.8
	4.00	8	44.4	44.4	72.2
	5.00	5	27.8	27.8	100.0
	Total	18	100.0	100.0	

Mean 3.833 Std err .246 Std dev 1.043 Skewness -.680 S E Skew .536
Minimum 2.000 Maximum 5.000

EXPR4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	2	11.1	11.1	11.1
	3.00	1	5.6	5.6	16.7
	4.00	8	44.4	44.4	61.1
	5.00	7	38.9	38.9	100.0
	Total	18	100.0	100.0	

Mean 4.000 Std err .291 Std dev 1.237 Skewness -1.679 S E Skew .536
Minimum 1.000 Maximum 5.000

IMPR1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	4.00	8	44.4	44.4	44.4
	5.00	10	55.6	55.6	100.0
	Total	18	100.0	100.0	

Mean 4.556 Std err .121 Std dev .511 Skewness -.244 S E Skew .536
Minimum 4.000 Maximum 5.000

IMPR2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2.00	1	5.6	5.6	5.6
	4.00	9	50.0	50.0	55.6
	5.00	8	44.4	44.4	100.0

Total	18	100.0	100.0

Mean 4.333 Std err .181 Std dev .767 Skewness -1.565 S E Skew .536
Minimum 2.000 Maximum 5.000

IMPR3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2.00	1	5.6	5.6	5.6
	4.00	9	50.0	50.0	55.6
	5.00	8	44.4	44.4	100.0
	Total	18	100.0	100.0	

Mean 4.333 Std err .181 Std dev .767 Skewness -1.565 S E Skew .536
Minimum 2.000 Maximum 5.000

- **KASERI CHEESE**

PINV1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	15	44.1	44.1	44.1
	2.00	12	35.3	35.3	79.4
	3.00	2	5.9	5.9	85.3
	4.00	4	11.8	11.8	97.1
	5.00	1	2.9	2.9	100.0
	Total	34	100.0	100.0	

Mean 1.941 Std err .193 Std dev 1.127 kewness 1.202 S E Skew
.403 Minimum 1.000 Maximum 5.000

PINV2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	14	41.2	41.2	41.2
	2.00	11	32.4	32.4	73.5
	3.00	2	5.9	5.9	79.4
	4.00	4	11.8	11.8	91.2
	5.00	3	8.8	8.8	100.0
	Total	34	100.0	100.0	

Mean 2.147 Std err .228 Std dev 1.329 Skewness 1.032 S E Skew
.403 Minimum 1.000 Maximum 5.000

PINV3[108]

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	24	70.6	70.6	70.6
	2.00	9	26.5	26.5	97.1
	5.00	1	2.9	2.9	100.0

[108] reverse scored.

Total	34	100.0	100.0

Mean 1.382 Std err .134 Std dev .779 Skewness 3.277 S E Skew .403
Minimum 1.000 Maximum 5.000

EXPR1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	2	5.9	5.9	5.9
	2.00	1	2.9	2.9	8.8
	3.00	2	5.9	5.9	14.7
	4.00	17	50.0	50.0	64.7
	5.00	12	35.3	35.3	100.0
	Total	34	100.0	100.0	

Mean 4.059 Std err .179 Std dev 1.043 Skewness -1.657 S E Skew
.403 Minimum 1.000 Maximum 5.000

EXPR2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	2	5.9	5.9	5.9
	2.00	6	17.6	17.6	23.5
	3.00	3	8.8	8.8	32.4
	4.00	13	38.2	38.2	70.6
	5.00	10	29.4	29.4	100.0
	Total	34	100.0	100.0	

Mean 3.676 Std err .214 Std dev 1.249 Skewness -.727 S E Skew
.403 Minimum 1.000 Maximum 5.000

EXPR3

Value Label	Value	Frequency	Percent	alid Percent	Cum Percent
	1.00	6	17.6	17.6	17.6
	2.00	7	20.6	20.6	38.2
	3.00	3	8.8	8.8	47.1
	4.00	8	23.5	23.5	70.6
	5.00	10	29.4	29.4	100.0
	Total	34	100.0	100.0	

Mean 3.265 Std err .261 Std dev 1.524 Skewness -.259 S E Skew .403
Minimum 1.000 Maximum 5.000

EXPR4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	3	8.8	8.8	8.8
	3.00	2	5.9	5.9	14.7
	4.00	13	38.2	38.2	52.9
	5.00	16	47.1	47.1	100.0
	Total	34	100.0	100.0	

Mean 4.147 Std err .199 Std dev 1.158 Skewness -1.796 S E Skew .403
Minimum 1.000 Maximum 5.000

IMPR1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	1	2.9	2.9	2.9
	2.00	1	2.9	2.9	5.9
	3.00	1	2.9	2.9	8.8
	4.00	10	29.4	29.4	38.2
	5.00	21	61.8	61.8	100.0
	Total	34	100.0	100.0	

Mean 4.441 Std err .159 Std dev .927 Skewness -2.240 S E Skew .403
Minimum 1.000 Maximum 5.000

IMPR2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	2	5.9	5.9	5.9
	2.00	2	5.9	5.9	11.8
	4.00	11	32.4	32.4	44.1
	5.00	19	55.9	55.9	100.0
	Total	34	100.0	100.0	

Mean 4.265 Std err .195 Std dev 1.136 Skewness -1.875 S E Skew .403 Minimum 1.000 Maximum 5.000

IMPR3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1.00	2	5.9	5.9	5.9
	2.00	1	2.9	2.9	8.8
	3.00	1	2.9	2.9	11.8
	4.00	11	32.4	32.4	44.1
	5.00	19	55.9	55.9	100.0
	Total	34	100.0	100.0	

Mean 4.294 Std err .187 Std dev 1.088 Skewness -1.984 S E Skew .403
Minimum 1.000 Maximum 5.000

APPENDIX 8. CLUSTER ANALYSIS ON A SAMPLE OF CASES

Hierarchical cluster analysis for a two cluster solution was run for a random sample of 194 cases, selected by SPSS/PC+ out of the initial sample of 490 cases. The aim of this analysis - as suggested by Norusis (1993), was to identify centres of clusters to be used for the k-means cluster analysis presented in Chapter 10.

The following output was produced by SPSS/PC+:

******HIERARCHICAL CLUSTER ANALYSIS******

Data Information: 196 unweighted cases accepted.
0 cases rejected because of missing value.

Agglomeration Schedule using Ward's Method

Stage	Clusters Combined Cluster 1	Cluster 2	Coefficient [109]	Stage Cluster 1st Appears Cluster 1	Cluster 2	Next Stage
1	126	196	.000000	0	0	11
2	147	187	.000000	0	0	6
3	179	186	.000000	0	0	48
4	175	176	.000000	0	0	5
5	32	175	.000000	0	4	18
6	85	147	.000000	0	2	17
7	6	141	.000000	0	0	133
8	76	135	.000000	0	0	57
9	46	133	.000000	0	0	45
10	117	132	.000000	0	0	12
11	5	126	.000000	0	1	23
12	22	117	.000000	0	10	22
13	57	113	.000000	0	0	25
14	94	107	.000000	0	0	18
15	27	104	.000000	0	0	81
16	97	103	.000000	0	0	17
17	85	97	.000000	6	16	129
18	32	94	.000000	5	14	54
19	79	82	.000000	0	0	84
20	38	70	.000000	0	0	34
21	67	69	.000000	0	0	22
22	22	67	.000000	12	21	27
23	5	63	.000000	11	0	42
24	45	58	.000000	0	0	30
25	20	57	.000000	0	13	31
26	44	49	.000000	0	0	27
27	22	44	.000000	22	26	47
28	3	91	.792844	0	0	68
29	42	66	1.585687	0	0	41
30	39	45	2.642812	0	24	32
31	20	195	3.832077	25	0	48
32	39	194	10.740736	30	0	45
33	184	188	18.570959	0	0	47
34	38	75	27.819035	20	0	43
35	72	192	38.034294	0	0	55
36	65	89	48.694176	0	0	116
37	62	68	59.354057	0	0	75
38	48	154	70.790497	0	0	128
39	59	78	83.107597	0	0	50
40	47	183	97.118896	0	0	111
41	17	42	112.596352	0	29	77
42	5	40	130.057083	23	0	92
43	38	131	151.538025	34	0	144

[109] i.e., the squared Euclidean distance.

44	124	127	173.676971	0	0	74
45	39	46	198.710785	32	9	126
46	51	191	225.418228	0	0	73
47	22	184	252.898590	27	33	81
48	20	179	280.632111	31	3	80
49	55	134	318.626038	0	0	153
50	35	59	359.253510	0	39	56
51	56	118	404.867096	0	0	88
52	43	185	451.853485	0	0	95
53	25	60	504.974945	0	0	96
54	32	173	565.010559	18	0	75
55	4	72	625.270203	0	35	120
56	35	137	685.532898	50	0	130
57	19	76	748.181396	0	8	83
58	64	167	811.135254	0	0	87
59	33	130	876.670898	0	0	74
60	101	114	942.352295	0	0	100
61	23	26	1014.138306	0	0	122
62	156	157	1099,609253	0	0	89
63	145	177	1186.315552	0	0	136
64	16	80	1274.218994	0	0	117
65	24	28	1364.163330	0	0	126
66	36	136	1455.131470	0	0	130
67	9	123	1548.185791	0	0	113
68	3	11	1641.780273	28	0	118
69	29	31	1740.070801	0	0	123
70	92	129	1840.664673	0	0	110
71	52	168	1946.417847	0	0	112
72	106	159	2060.879395	0	0	147
73	51	172	2178.903809	46	0	116
74	33	124	2302.506836	59	44	115
75	32	62	2430.058594	54	37	115
76	74	142	2562.165771	0	0	134
77	17	83	2694.615723	41	0	145
78	93	143	2827.768799	0	0	109
79	8	10	2973.068848	0	0	114
80	20	30	3128.760254	48	0	90
81	22	27	3290.291016	47	15	128
82	71	121	3453.187500	0	0	113
83	19	99	3622.854492	57	0	142
84	37	79	3798.791992	0	19	120
85	90	98	3989.596436	0	0	151
86	116	170	4183.668457	0	0	104
87	64	128	4378.262207	58	0	117
88	56	61	4578.315918	51	0	102
89	115	156	4780.085938	0	62	124
90	1	20	4991.707031	0	80	129
91	102	111	5204.657227	0	0	139
92	5	73	5418.326172	42	0	145
93	34	100	5634.458496	0	0	136
94	7	181	5850.925293	0	0	106
95	43	180	6068.853516	52	0	121
96	21	25	6288.647949	0	53	109
97	50	174	6552.795898	0	0	118
98	54	178	6826.202637	0	0	158
99	190	193	7103.602539	0	0	121
100	101	165	7391.012207	60	0	158
101	12	110	7680.540039	0	0	159
102	56	150	7984.741699	88	0	154
103	120	182	8331.748047	0	0	147
104	109	116	8686.834961	0	86	164
105	158	161	9043.780273	0	0	119
106	7	155	9408.923828	94	0	161
107	13	77	9777.540039	0	0	134

108	163	169	10160.759766	0	0	171
109	21	93	10546.987305	96	78	157
110	41	92	10939.713867	0	70	151
111	47	122	11346.967773	40	0	144
112	52	84	11754.328125	71	0	146
113	9	71	12162.570313	67	82	139
114	8	144	12589.653320	79	0	127
115	32	33	13039.470703	75	74	157
116	51	65	13497.890625	73	36	161
117	16	64	14007.886719	64	87	155
118	3	50	14522.419922	68	97	166
119	158	162	15049.526367	105	0	179
120	4	37	15577.370117	55	84	174
121	43	190	16118.107422	95	99	148
122	23	139	16686.289063	61	0	154
123	29	160	17265.765625	69	0	137
124	115	166	17845.630859	89	0	155
125	14	18	18429.871094	0	0	149
126	24	39	19034.546875	65	45	150
127	8	171	19663.035156	114	0	168
128	22	48	20305.554688	81	38	150
129	1	85	20964.023438	90	17	186
130	35	36	21633.337891	56	66	160
131	119	138	22330.542969	0	0	165
132	146	164	23051.689453	0	0	173
133	6	125	23803.562500	7	0	162
134	13	74	24591.894531	107	76	170
135	140	151	25394.246094	0	0	138
136	34	145	26205.035156	93	63	165
137	29	53	27044.974609	123	0	180
138	140	148	27952.121094	135	0	181
139	9	102	28867.468750	113	91	148
140	95	149	29816.888672	0	0	159
141	105	153	30789.400391	0	0	169
142	19	112	31957.078125	83	0	163
143	88	152	33133.257813	0	0	167
144	38	47	34350.136719	43	111	153
145	5	17	35623.042969	92	77	174
146	52	81	37021.957031	112	0	171
147	106	120	38436.808594	72	103	164
148	9	43	39858.718750	139	121	162
149	14	108	41297.984375	125	0	183
150	22	24	42752.082031	128	126	160
151	41	90	44314.613281	110	85	166
152	87	96	45890.222656	0	0	177
153	38	55	47479.105469	144	49	170
154	23	56	49079.742188	122	102	176
155	16	115	50736.421875	117	124	175
156	2	86	52541.523438	0	0	187
157	21	32	54407.765625	109	115	184
158	54	101	56444.890625	98	100	163
159	12	95	58661.644531	101	140	173
160	22	35	61204.925781	150	130	182
161	7	51	63911.695313	106	116	176
162	6	9	67152.289063	133	148	172
163	19	54	70398.500000	142	158	185
164	106	109	73656.695313	147	104	181
165	34	119	77427.492188	136	131	180
166	3	41	81377.617188	118	151	168
167	88	189	85419.085938	143	0	169
168	3	8	89578.078125	166	127	177
169	88	105	93989.546875	167	141	179
170	13	38	98694.687500	134	153	182
171	52	163	103960.42188	146	108	178

172	6	15	109285.67969	162	0	175
173	12	146	115060.21094	159	132	178
174	4	5	122598.26563	120	145	184
175	6	16	131373.28125	172	155	189
176	7	23	140172.29688	161	154	188
177	3	87	149550.07813	168	152	183
178	12	52	159045.57813	173	171	192
179	88	158	169994.17188	169	119	187
180	29	34	181032.39063	137	165	185
181	106	140	192849.18750	164	138	191
182	13	22	204758.76563	170	160	189
183	3	14	218173.37500	177	149	188
184	4	21	234716.95313	174	157	186
185	19	29	258572.25000	163	180	193
186	1	4	283377.37500	129	184	190
187	2	88	312100.62500	156	179	191
188	3	7	354902.37500	183	176	192
189	6	13	405163.56250	175	182	190
190	1	6	460018.00000	186	189	195
191	2	106	515735.18750	187	181	194
192	3	12	575747.75000	188	178	193
193	3	19	715382.75000	192	185	194
194	2	3	982413.81250	191	193	195
195	1	2	1452025.5000	190	194	0

Cluster Membership of Cases using Ward Method

	Number of Clusters	
Label	Case	2
Case 1	1	1
Case 2	2	2
Case 3	3	2
Case 4	4	1
Case 5	5	1
Case 6	6	1
Case 7	7	2
Case 8	8	2
Case 9	9	1
Case 10	10	2
Case 11	11	2
Case 12	12	2
Case 13	13	1
Case 14	14	2
Case 15	15	1
Case 16	16	1
Case 17	17	1
Case 18	18	2
Case 19	19	2
Case 20	20	1
Case 21	21	1
Case 22	22	1
Case 23	23	2
Case 24	24	1
Case 25	25	1
Case 26	26	2
Case 27	27	1
Case 28	28	1
Case 29	29	2
Case 30	30	1
Case 31	31	2
Case 32	32	1
Case 33	33	1
Case 34	34	2
Case 35	35	1

Case 36	36	1
Case 37	37	1
Case 38	38	1
Case 39	39	1
Case 40	40	1
Case 41	41	2
Case 42	42	1
Case 43	43	1
Case 44	44	1
Case 45	45	1
Case 46	46	1
Case 47	47	1
Case 48	48	1
Case 49	49	1
Case 50	50	2
Case 51	51	2
Case 52	52	2
Case 53	53	2
Case 54	54	2
Case 55	55	1
Case 56	56	2
Case 57	57	1
Case 58	58	1
Case 59	59	1
Case 60	60	1
Case 61	61	2
Case 62	62	1
Case 63	63	1
Case 64	64	1
Case 65	65	2
Case 66	66	1
Case 67	67	1
Case 68	68	1
Case 69	69	1
Case 70	70	1
Case 71	71	1
Case 72	72	1
Case 73	73	1
Case 74	74	1
Case 75	75	1
Case 76	76	2
Case 77	77	1
Case 78	78	1
Case 79	79	1
Case 80	80	1
Case 81	81	2
Case 82	82	1
Case 83	83	1
Case 84	84	2
Case 85	85	1
Case 86	86	2
Case 87	87	2
Case 88	88	2
Case 89	89	2
Case 90	90	2
Case 91	91	2
Case 92	92	2
Case 93	93	1
Case 94	94	1
Case 95	95	2
Case 96	96	2
Case 97	97	1
Case 98	98	2
Case 99	99	2

Case 100 100 2
Case 101 101 2
Case 102 102 1
Case 103 103 1
Case 104 104 1
Case 105 105 2
Case 106 106 2
Case 107 107 1
Case 108 108 2
Case 109 109 2
Case 110 110 2
Case 111 111 1
Case 112 112 2
Case 113 113 1
Case 114 114 2
Case 115 115 1
Case 116 116 2
Case 117 117 1
Case 118 118 2
Case 119 119 2
Case 120 120 2
Case 121 121 1
Case 122 122 1
Case 123 123 1
Case 124 124 1
Case 125 125 1
Case 126 126 1
Case 127 127 1
Case 128 128 1
Case 129 129 2
Case 130 130 1
Case 131 131 1
Case 132 132 1
Case 133 133 1
Case 134 134 1
Case 135 135 2
Case 136 136 1
Case 137 137 1
Case 138 138 2
Case 139 139 2
Case 140 140 2
Case 141 141 1
Case 142 142 1
Case 143 143 1
Case 144 144 2
Case 145 145 2
Case 146 146 2
Case 147 147 1
Case 148 148 2
Case 149 149 2
Case 150 150 2
Case 151 151 2
Case 152 152 2
Case 153 153 2
Case 154 154 1
Case 155 155 2
Case 156 156 1
Case 157 157 1
Case 158 158 2
Case 159 159 2
Case 160 160 2
Case 161 161 2
Case 162 162 2
Case 163 163 2

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Case 164	164	2
Case 165	165	2
Case 166	166	1
Case 167	167	1
Case 168	168	2
Case 169	169	2
Case 170	170	2
Case 171	171	2
Case 172	172	2
Case 173	173	1
Case 174	174	2
Case 175	175	1
Case 176	176	1
Case 177	177	2
Case 178	178	2
Case 179	179	1
Case 180	180	1
Case 181	181	2
Case 182	182	2
Case 183	183	1
Case 184	184	1
Case 185	185	1
Case 186	186	1
Case 187	187	1
Case 188	188	1
Case 189	189	2
Case 190	190	1
Case 191	191	2
Case 192	192	1
Case 193	193	1
Case 194	194	1
Case 195	195	1
Case 196	196	1