

**DEMOCRATIC AND POPULAR REPUBLIC OF  
ALGERIA**

**MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC  
RESEARCH**

**Ecole Supérieure de Commerce – Algiers**

*Creating Customer Value From a Strategic  
Positioning Stand-Point*

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**Case Study : Henkel Algeria**

A Thesis Submitted in Partial Fulfillment of the  
Requirements for Magister's Degree in Commercial and Financial  
Sciences

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# Dedication

To my mother, sister, brother and brother-in-law

To my nieces Nybel and Razen

To O. Assenine

To S. Haridi, N. Guenouche and A. Guettaf

# Acknowledgments

I'm indebted to my supervisor for his guidance, assistance and patience throughout the research. F. Selougha for her encouragements, constructive criticism and her great help on the manuscript. I also owe a great debt to M. Djoudi and N. Belghaouti whose contribution played a central role in the development of the empirical research. Finally, I would like to thank my colleagues at school for their comments and contribution to the research.

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# General Introduction

**S**uccess in business is insured by walking the path of greatness. The definition of greatness on the other hand, alters from a firm to another. Several firms define greatness in term of leadership in respect to market share; some define it as the ability to respond to all customers, and, few define greatness by being different and the best in the business. All three are fine and wishful goals to reach; though, which one is the right definition and which one is pursued by successful firms.

First, leadership is an illusory vision to compete on because it is not and it will not be the cause of success; leadership is an effect of a clear strategy. Second, responding to all customers leads a firm to lose sight to its core business and entering a survival race. Third, being different seems to be the appropriate strategy, as it is the only one that distinguishes a firm's offer from rivals' and it is the purpose of any business unit; which is possessing a competitive advantage.

Activities are what characterize and make a firm operational; however firms usually fall into the pitfall of performing these activities better; rather than different from rivals. Performing activities better than competitors leads to the implementation of management tools that in turn displaced strategy. Pursuing management tools such as six sigma, total quality management, continuous improvements and lean production occupied several textbooks and supported by consultants which results its aggregate implementation by firms. The bottom-line of implementing these tools by all firms in an industry is competitive convergence. In contrast to compete on operational effectiveness and being better on the same basis; a firm can choose a competitive position that distinguishes it from others. Performing activities differently allows a firm to leapfrog its rivals on what customers appreciate. Competing on strategic positioning permits a firm to deliver a leap in customer value which results a mesmerizing returns.

In order to be specific and up to the point, the research in this thesis is guided and limited by the proceeding problematic that highlights the antecedent angles; *What are the Impacts of Creating Customer Value from Strategic Positioning Stand-Point on a Competitive Environment?* To cover this problematic from various aspects; it is divided into two sub-questions:

- What are the effects of strategic positioning on a competitive environment?
- Will strategic positioning be the premise to deliver greater value to customers?

Three hypotheses were proposed as an attempt to answer those questions; these hypotheses are then put into test to be accepted or rejected.

- Henkel's products are the most preferred in the dishwashing liquid market.
- Henkel's products are well-differentiated in the dishwashing liquid market.
- Henkel's products deliver the greatest value in the dishwashing liquid market.

The importance of strategic positioning is crucial to deliver the leap in customer value; which is in turn why customers do business with a firm in the first place, rather than rivals. Since customers buy only the items that represent value to them; value delivered from a clear competitive position will be the main issue addressed by this research. The research though, illustrates several important issues every firm must review and include in its strategy for achieving the desired vision. Overcoming competitors required a sustainable competitive advantage that will be transformed into long term profitability. However, competitors will not remain crossed arms; at least imitate the firm's best practices. Strategic positioning can prevent imitation through coordinating the firm's activities to create an activity system; fit among activities is neglected due the heavy reliance on operational effectiveness that focuses solely on one activity. The research also addresses the importance of segmenting the market in respect to value or benefits that customers seeking in buying a particular product. Finally, customer value was dealt in previous researches in words instead of numbers; this research will be an attempt to assess customer value.

The research is aimed to reach three major objectives. First, assess the level of differentiation between a firm that possesses a clear position and those that want to be all things to all customers. Second, indicating the level of discrimination between segments, clustered based on the benefit criterion. Third, find out the relationship between strategic positioning and the magnitude of the delivered value to customers.

In order to achieve the preceding objectives; secondary data in a form of researches on the subject will be reviewed and analyzed. Besides, a descriptive research will be conducted based on single cross-sectional design. A survey will be run, employing in-home and office interviews. The collected data will be then analyzed using several analyses. Multidimensional scaling will

assess the level of differentiation between several brands. Preference scaling will assess the closeness of the brands to respondents' ideal products. After segmenting respondents by benefit clustering; conjoint analysis in addition to the expectancy-value model will measure customer value delivered by each brand.

The thesis is organized into three chapters, each at three sections. The two first constitute the theoretical part and the third chapter represents the empirical research.

Chapter 1 begins with a thorough explanation of the term strategy and its types at the business unit level. The term strategy throughout the thesis is used from the positioning school perspective according to *Henry Mintzberg*. The chapter then explores to how a firm can gain a broad position; that is, choose one of the three generic strategies. Section 2 of the chapter embodies a distinction between operational effectiveness and strategic positioning using the productivity frontier as a tool; and then, demonstrates which combination is best for a firm. The final section of the chapter is occupied with strategic positioning and its principles and presents the Lincoln's Electric Company activity system as an example to illustrate the advantages of coordinating the firm's activities into one interrelated system.

Chapter 2 is entirely devoted to customer value and how it can be assessed. The chapter at first describes the two orientations a company can select when considering its customer as a starting point. Section 1 of the chapter discusses how customers initiate value perception through affective and cognitive responses which result knowledge that will be stored in memory at different levels. The means-end chain that describes product knowledge from the concrete less abstraction level, to high abstraction level that represents customers' goals and values is used to explain what constitutes customer value. The chapter then proceeds to explore how a company communicates its value through value proposition. Chapter 2 ends with a comprehensive illustration of assessing customer value at the attribute level by employing conjoint analysis to determine the relative importance of attributes along with the expectancy-value model to assess perceived value.

Chapter 3 begins with a presentation of Henkel Group and Henkel Algeria which will be chosen as a case study to employ what have been discussed in the former chapters. The area of interest is the dishwashing market that contains several products and characterized by its harsh competition. Section 2 of the chapter describes the methodology of the descriptive research and which information will be used to design the questionnaire that will be run in the survey. The sample size will be determined following the mean approach. Both inferential and descriptive statistics will be conducted after defining which measurement scale (nominal, interval, ordinal and ratio) to which measure. Finally, section 3 presents the finding of the survey that will be used to accept or reject the hypotheses proposed above.

**CHAPTER ONE**  
**-COMPETITIVE STRATEGY-**



# Introduction

**F**irms cannot preserve their best practices anymore, due to competition in operational effectiveness. The only approach to stay ahead of rivals and not be just part of a game is to have a clear strategy, in comparison to competitors'. This chapter defines strategy from the positioning school perspective and underlines the different strategies which take place at a business unit level and emphasizes on the generic strategies. Furthermore, the chapter explores the importance of understanding the industry structure before choosing a strategy.

Positioning a business broadly can be reached through, the three generic strategies. Moreover, this chapter draws a distinction between operational effectiveness (being the best) and strategic positioning (being unique) and shows the state of best practice. A firm, however, can go beyond a broad positioning, to a very specific one, through the principles of strategic positioning. Finally, this chapter addresses the importance of making trade-offs in competing, and how activities should interrelated to each other, in order to create an activity system that prevents competitors from imitating a firm's best practices.

According to McKensy & Company, strategy is the first element of the 7S Framework that insures a firm's success. From strategic marketing perspective, strategy occurs in three levels; (1) corporate level, (2) business unit level and (3) functional level. Corporate strategy occupies two major tasks; defining the business of the corporation and managing its business units. Business unit strategy tends to be competitive; its prime task is achieving a competitive advantage. Finally the functional or departmental strategy main task is to allocate resources to execute the business unit plans.

**Note:** For the sake of precision, the following discussion embodies strategy only at the business unit level and from "The Positioning School" perspective, according to *Henry Mintzberg* categorization of strategy.<sup>1</sup>

## **1. Definition of Strategy**

Michael E. Porter defined strategy as: "A strategy is an internally consistent configuration of activities that distinguishes a firm from its rivals".<sup>2</sup>

Philip Kotler's definition of strategy: "Strategy is the glue that aims to build and deliver a consistent and distinctive value proposition to target market".<sup>3</sup>

The words "Consistent" and "Distinctive" appeared in both definitions in the same order. Both authors agree that a firm that has strategy must focus all its efforts into the same purpose to deliver value to its customers, a value that is distinctly different from the value delivered by competitors.

## **2. Types of strategies**

Strategies at the business unit level are categorized into three groups:

- 2.1** Generic competitive strategies (aimed to competitive positioning).
- 2.2** Growth strategies (aimed to growth).
- 2.3** Competitive strategies (aimed to defensive or offensive moves).

These strategies will be discussed briefly, and then the following discussion will concentrate on three generic competitive strategies.

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<sup>1</sup> Henry Mintzberg, Joseph Lampel and Bruce Ahlstrand, *Strategy Safari*, (New York: The Free Press, 1998).

<sup>2</sup> Michael E. Porter, *Competitive Advantage: Creating and Sustaining Superior Performance*, (New York: The Free Press, 1985), p. xvi.

<sup>3</sup> Philip Kotler, *Marketing Insights from A to Z*, (New Jersey: John Wiley & Sons, Inc, 2003), p. 21.

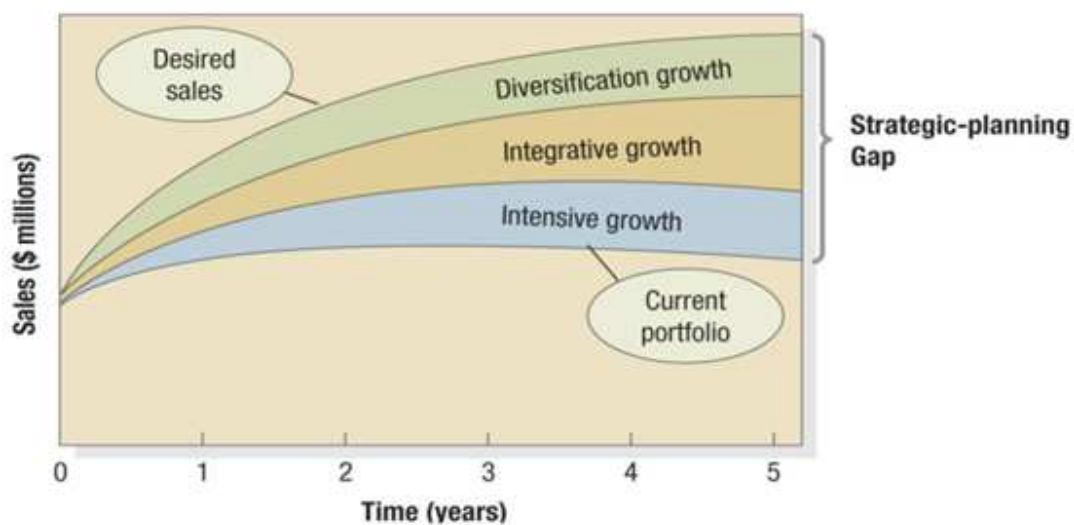
## 2.1 Generic Competitive Strategies

There are three generic competitive strategies - overall cost leadership, differentiation and focus -. The generic competitive strategies will be discussed in a subsequent section later on.

## 2.2 Growth Strategies

Growth strategies can be monitored from the strategic planning gap, this latter is divided into three types of growth,<sup>1</sup> as **Figure 1.1** shows:

**Figure 1.1:** Strategic Planning Gap



**Source:** Philip Kotler and Kevin Lane Keller, *Marketing Management*, Twelfth Edition, (New Jersey: Pearson Prentice Hall, 2006), p.47.

When a firm intends to grow it has three courses, which are not mutually exclusive to reach its desired growth rate. These courses are: intensive growth, integrative growth and diversified growth.

### 2.2.1 Intensive Growth

As the figure shows, the simplest way for a firm to grow is through its current business, with its current portfolio. According to Igor Ansoff's "*Product-Market Strategies for Business Growth Alternatives*" a firm has four types of product-market strategy,<sup>2</sup> which enable it to grow its current portfolio as shown in **Figure 1.2:**

<sup>1</sup> Philip Kotler and Kevin Lane Keller, *Marketing Management*, Twelfth Edition, (New Jersey: Pearson Prentice Hall, 2006), pp. 47-49.

<sup>2</sup> Igor Ansoff, "Strategies for Diversification," *Harvard Business Review*, (September-October, 1957) p. 114.

**Figure 1.2:** Product-Market Expansion Grid

	Current Products	New Products
Current Markets	1. Market-penetration strategy	3. Product-development strategy
New Markets	2. Market-development strategy	(Diversification strategy)

**Source:** Philip Kotler and Kevin Lane Keller, *Marketing Management*, Twelfth Edition, (New Jersey: Pearson Prentice Hall, 2006), p. 48.

- **Market-Penetration Strategy:** within a firm's current market, it increases its sales through selling more quantity to its customers or increases its market share for the same product line.
- **Market-Development Strategy:** in this strategy a firm introduces its current products to new markets.
- **Product-Development Strategy:** this strategy is the most prevailing one. In this strategy a firm develops new products to its current customers.
- **Diversification Strategy:** this is the opposite case of the first strategy; a firm considers entering new markets with new products.

### 2.2.2 Integrative Growth

The second type of growth strategies consists of two types of integration -vertical integration and horizontal integration -. The integrative growth strategy applies a strict condition on a firm. In pursuing growth, a firm must integrate activities operate in the same industry; otherwise, the integration is doomed to failure.

- **Vertical integration:** vertical integration takes the form of backward or forward integration. When a firm considers a backward integration, it should evaluate all its suppliers and single out the one(s) who maximizes its profitability. Forward integration on the other hand, requires an evaluation of a firm's wholesaler(s) or retailer(s) who maximizes its profitability as well.

- **Horizontal integration:** horizontal integration takes the form of acquiring a firm's competitor(s).

### 2.2.3 Diversification Growth

This strategy requires a firm to look beyond its current business. When a firm's assessment of new industries seems attractive, it could enter these industries through start ups or through acquiring firms in those industries. Due to relationships with a firm's current business, diversification strategy consists of three types:

- **Concentric Diversification Strategy:** a firm might introduce new products which create whether technological or marketing synergies with existing products.
- **Horizontal Diversification Strategy:** introducing new products through unrelated technological structure.
- **Conglomerate Diversification Strategy:** a firm might enter an industry that has no relationship to the firm's technological structure, products or markets.

## 2.3 Competitive Strategies (warfare strategies)

Competitive strategy in this manner takes the form of defensive or offensive. The likelihood of defensive or offensive moves greatly relies on industry instability.<sup>1</sup>

### 2.3.1 Defensive Strategies

There are six defensive strategies a leader should consider<sup>2</sup>:

- **Position Defense:** this is the basic defense strategy; it is based on build barriers against current and potential rivals. These barriers aim to prevent rivals from imitating a firm's position.
- **Flanking defense:** in order to protect its weak spots, a leader should find ways to lock out challengers from filling these spots through reinforce its positions.
- **Preemptive Defense:** The first thing should a firm consider to do is starting the retaliation through various strategic moves, it has been said the best defense is a good offense.

---

<sup>1</sup> Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, (New York: The Free Press, 1980), p. 89.

<sup>2</sup> Philip Kotler and Kevin Lane Keller, *Marketing Management*, Twelfth Edition, (New Jersey: Pearson Prentice Hall, 2006), pp. 353-54 and Philip Kotler, Gary Armstrong, John Saunders and Veronica Wong, *Principles of Marketing*, Second European Edition, (Europe: Prentice Hall 1999), pp. 526-29.

- **Counteroffensive Defense:** this strategy can be chosen when a leader has been already attacked; a leader's retaliation could be by hitting a challenger's flanks or head-to-head which will be destructive to the entire industry.
- **Mobile Defense:** this strategy applies a leader to whether expand or diversify. Expanding to new territories to protect its flanks or diversify into new industries that can help in future defensive or offensive moves.
- **Contraction Defense (Withdrawal):** when challengers are tough, and a leader has several segments to protect. The leader withdraws from non-profitable segments for the sake of profitable segments (trade-offs). This strategy could be chosen when the competition between the two tends to be destructive and the leader withdraws to save the industry as a whole.

### 2.3.2 Offensive Strategies

There are five offensive strategies available for challengers<sup>1</sup>:

- **Frontal Attack:** this strategy is based on attacking competitors' strengths. The challengers seek to match competitors' offerings, services and activities. If challengers do not have the required resources to initiate the move and deter retaliation, this strategy must not be considered at all.
- **Flank Attack:** after identifying a leader's weakest spots, a challenger can initiate an attack move. The leader's weakest spots can be segments that are poorly served or geographic areas that are not well reached.
- **Enrichment Attack:** this strategy stands for attacking a leader from different directions which makes the leader lag in retaliation. In order to apply this strategy the challenger must have the required resources to last the retaliation.
- **Bypass Attack:** when the leader is well-known by its retaliation and the challenger does not have resources to initiate a serious move. The challenger could attack indirectly through introducing unrelated products, entering new geographic areas or replacing current product by new technologies.
- **Guerilla Attack:** this strategy is used by small challengers that do not have enough resources. Guerilla attack is considered as a preparation for future serious attacks. Starting by hitting competitor's vulnerable areas.

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<sup>1</sup> Philip Kotler and Kevin Lane Keller, *Marketing Management*, Twelfth Edition, (New Jersey: Pearson Prentice Hall, 2006), pp. 356-58 and Philip Kotler, Gary Armstrong, John Saunders and Veronica Wong, *Principles of Marketing*, Second European Edition, (Europe: Prentice Hall 1999), pp. 530-32.

## Section 1: Generic Competitive Strategies

Now after defining some ground concepts underpinning the first chapter, the following discussion addresses only competitive strategy that is aimed to competitively position a firm's business against rivals. The term Competitive Strategy was first appeared in 1980 by Michael E. Porter the founder of positioning school through the book of competitive strategy. Organizations, business schools, consultants... have been using it aggregately; because of its enormous importance in the field.

### 1.1 Definition of Competitive Strategy

*“Competitive Strategy involves positioning a business to maximize the value of the capabilities that distinguish it from competitors.”<sup>1</sup>*

The above definition contains three variables:

- **Positioning a business:** make the business more unique, valuable and attractive.
- **Maximize the value of capabilities:** makes the firm's strengths, stronger and the weaknesses less adversely.
- **Distinguish the firm from competitors:** maximizing capabilities are in the aim of protecting and defending the firm from competitors and eventually a profitable business.

Positioning a business among competitors is the main objective of competitive strategy, therefore positioning itself, is a strategy of its own right. The other two components of competitive strategy are aimed to create a gap between a firm's practices and the competitors', and maintain or increase the width of that gap. The first component is a cause, whereas the second and the third are its effects.

### 1.2 The Structural Analysis of Industries

The determinants of a profitable and sustainable position within an industry are: (1) industry attractiveness and (2) a firm's competitive position<sup>2</sup>, which eventually creates a competitive advantage. In fact every attractive and successful competitive position is the result of a good

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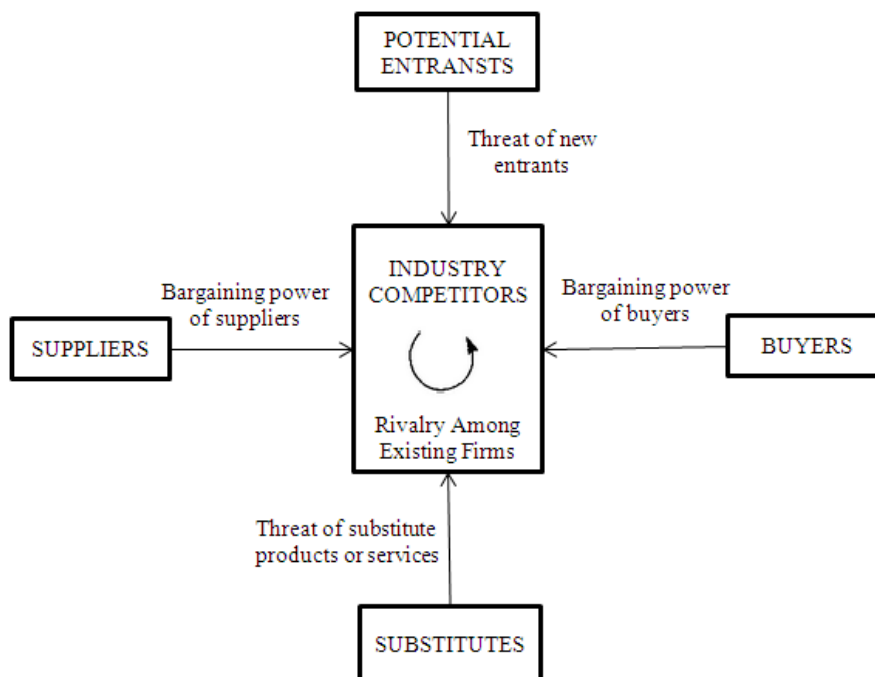
<sup>1</sup> Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, (New York: The Free Press, 1980), p. 47.

<sup>2</sup> Michael E. Porter, "Strategy and the Internet," *Harvard business review*, (March 2001), p. 5.

understanding of an industry structure and thorough analysis of competitors' behavior<sup>1</sup>. A better understanding of the five competitive forces in **Figure 1.3** - the threat of new entrants, the threat of substitutes, the bargaining power of buyers, the bargaining power of suppliers, and the intensity and the basis of rivalry among existing competitors - allows a firm to select the most appropriate competitive position to overcome and shape most of them, if not all. Industry structure determines a firm's average profitability, while competitive position determines a firm's above average profitability.

- **The threat of new Entrants:** when firm expects retaliation from new entrants, it might invest in brand identity, new plants, forward integration, and so forth to raise entry barriers.
- **Bargaining power of buyers:** if buyers have bargaining leverage; they might influence a firm to reduce its prices, increase differentiation, more services and the like.
- **Bargaining power of suppliers:** suppliers with bargaining leverage have a great deal of importance on a firm's products or services.

**Figure 1.3:** The Five Competitive Forces that Determine Industry Profitability



**Source:** Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, (New York: The Free Press, 1980); p. 4.

<sup>1</sup> Michael E. Porter, *Competitive Advantage: Creating and Sustaining Superior Performance*, (New York: The Free Press, 1985), p. 3.



- **The threat of substitute products and services:** substitute products are evaluated as alternatives by buyers. Thus, substitutes could replace a firm's products; thereby, influence a firm's prices and offers.
- **Intensity of Rivalry:** intensity of rivalry determines a firm's prices and costs such as advertising, manufacturing equipments and on it goes.

A thorough analysis of competitors' that can be assessed through competitors': future goals, assumptions, current strategies and capabilities<sup>1</sup>, allow a firm to outlook competitors' actions that they are likely to undertake. Once a firm identified the force that captures the most profitability through the previous model and predict competitors' behavior through the previous components of competitor analysis, it finally may well cope with its industry better than competitors.

### 1.3 The Three Generic Strategies

When a firm's products are pretty lame or identical to those of competitors'; and a firm wishes to achieve a strategic positioning to differ itself, has three alternatives. These alternatives are the three generic strategies: overall cost leadership, differentiation and focus as shown in **Figure 1.4**. These three generic strategies were developed by their founder Michael E. Porter.<sup>2</sup>

#### 1.3.1 Overall Cost Leadership

There are several requirements face firms, that want to achieve an overall cost leadership, the following requirements are the most inevitable for applying overall cost leadership:

- **High relative market share:** in order to gain profits through selling low price products. Firms must have high market share to offset low prices. High market share leads to an above average returns.
- **Heavy up-front investment in state-of-the art equipments:** to stay ahead, firms must keep up with technologies advancement, in order to reach economies of scale.
- **Market homogeneity:** customers' needs must be pretty identical, in order to manufacture to same product, with basic features.
- **Cost minimization and cost control in all activities:** to maintain cost position, firms need to decrease its costs in all activities and try to establish an interrelationships between them, to have the advantage of synergy.

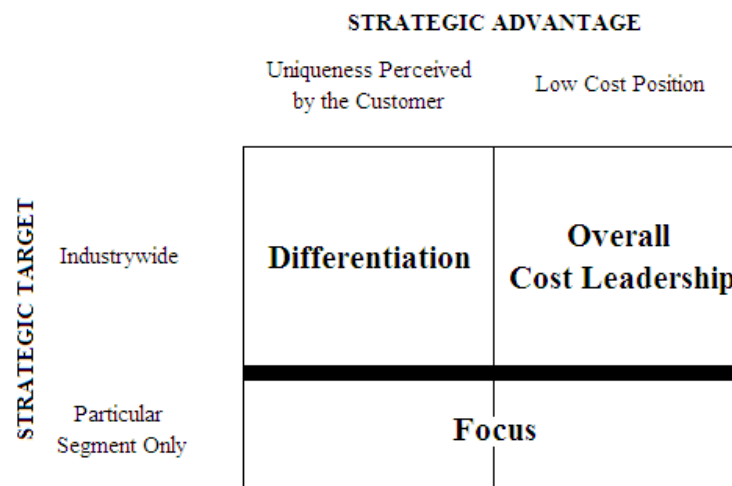
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<sup>1</sup> Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, (New York: The Free Press, 1980); p. 48.

<sup>2</sup> Ibid, pp. 34-41, and Michael E. Porter, *Competitive Advantage: Creating and Sustaining Superior Performance*, (New York: The Free Press, 1985), pp. 11-16.

- **Differentiation parity:** Cost minimization must not compromise the products' quality. The value of low prices products must be perceived.
- **Be the cost leader:** to gain an above average profitability, a firm must be the only one that is perceived as the cost leader. Several firms implementing this strategy will damage the industry through a race to the bottom.

**Figure 1.4:** Three Generic Strategies



**Source:** Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, (New York: The Free Press, 1980); p. 39.

### 1.3.2 Differentiation

The second source of positioning can emerge from differentiation. Differentiation can be reached through: (1) *product (features, performance, conformance, durability, reliability, repairability, style, design)*, (2) *Service (delivery, installation, customer training, consulting, repair)*, (3) *Personnel (competence, courtesy, credibility, reliability, responsiveness, communication skill)* and (4) *Image (symbols, written and audio/video media, atmosphere, events)*.<sup>1</sup>

Like cost leadership; differentiation implies some requirements, most importantly are:

- **Uniqueness:** uniqueness should be in more than one dimension; uniqueness is the cause of being recognized and creating customers' loyalty. Uniqueness persuades customers to pay the extra price because they value a firm's uniqueness.

<sup>1</sup> Philip Kotler, *Marketing Insights from A to Z*, (New Jersey: John Wiley & Sons, Inc, 2003), p. 51.

- **Willingness to pay premium prices:** customers must have low sensitivity to prices; higher premiums overcome the obstacle of small market share.
- **Cost parity:** even if differentiation is costly, firms must not lose sight of its costs. Even if the products are showoff or prestigious products, Mercedes and Rolex, for example.
- **Continuity:** a firm must be innovative in finding new ways to differentiate itself from rivals; thereby, customers will perceive the firm as differentiator.

### 1.3.3 Focus

The final alternative for positioning is the focus strategy; firms gain such position by focusing on: “*a particular buyer group, segment of the product line, or geographic market*”.<sup>1</sup> Overall cost position and differentiation operate on industry-wide basis. Whereas, focus strategy operates in a narrow market and serve it efficiently. To understand focus strategy, imagine the same two previous strategies, but in a narrow market as illustrated in **Figure 1.4**. Thus, focus strategy can be: *cost-focus* or a *differentiation focus*. Therefore, the requirements of achieving the focus strategy are a combination between the requirements of cost leadership and differentiation, in addition to:

- **Special cost behavior or special needs:** to focus on a narrow market, this market must be distinct in one way or another. Otherwise, it can be served by the broader competitors.
- **Ability to serve a neglected customer group more effectively:** when cost position and differentiated firms are busy fulfilling their customers’ needs on broadly basis; focus firms can serve this group significantly.

## Section 2: Operational Effectiveness versus Strategic Positioning

### 1.1 Definition of Strategic Positioning

“*Strategic positioning means performing different activities from rivals, or performing similar activities in different ways.*”<sup>2</sup>

The word *different* appeared twice in the definition. Performing different activities does not mean performing those activities *better* than rivals (operational effectiveness). To illustrate the differences between strategic positioning and operational effectiveness; productivity frontier will be in a great use.

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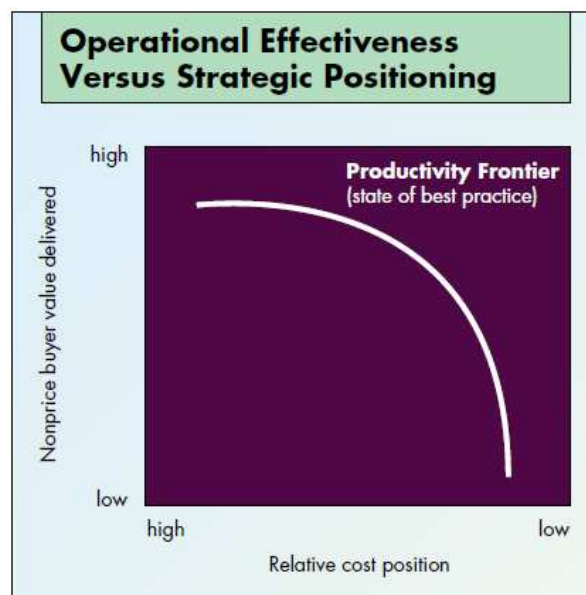
<sup>1</sup> Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, (New York: The Free Press, 1980); p. 38.

<sup>2</sup> Michael E. Porter, “What Is Strategy?” *Harvard Business Review*, (November-December 1996), p.62.

## 1.2 A Contrastive Analysis

The author tried to distinguish operational effectiveness from strategic positioning through productivity frontier. Though, the chart contains two dimensions, discrete than operational effectiveness and strategic positioning. The vertical dimension is labeled “*Non-price buyer value delivered*”; it points out to the strategic choices, which means strategic positioning. In this case there are two possibilities; if it is high, then it indicates the strategic position of differentiation; otherwise, it indicates the strategic position of cost leadership.

**Figure 1.5:** Productivity Frontier

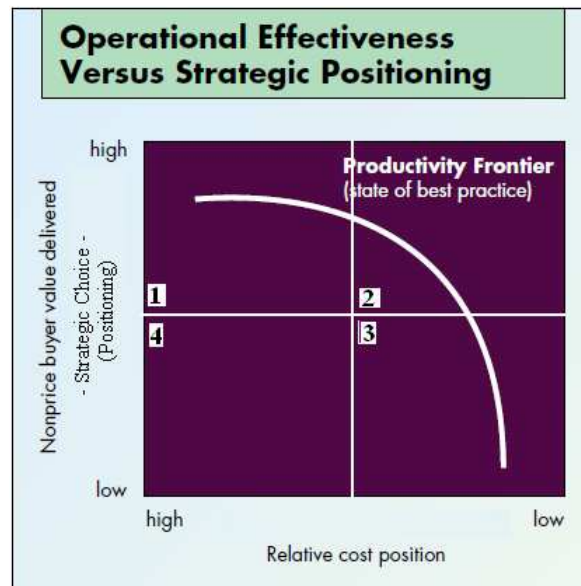


**Sources:** Michael E. Porter, "What Is Strategy?" *Harvard Business Review*, (November-December 1996), p. 62.

The horizontal dimension is labeled “*Relative cost position*”. If it happens, that these firms have a low cost position, it means, these firms have a high level of operational effectiveness. In contrast, if these firms have a high cost position, it means firms with poor cost control and poor operational efficiency.

To understand the productivity frontier as significantly as possible, the chart should be modified as it appears in **Figure 1.6**.

**Box 1:** characterized by high non price buyer value delivered (the case of extreme differentiation) and high relative cost position (poor operational effectiveness resulted from ignoring costs of differentiation). Firms in this positions made trade-offs between higher quality and costs because buyers are willing to pay the premium price for uniqueness. This state of practice is not recommended due to cost negligence; cost parity must be considered in this state.

**Figure 1.6:** Productivity Frontier, Modified Version

**Sources:** Modified From Many Sources by the Author.

**Box 2:** Firms in **Box1** are well positioned in their markets by offering premium quality; furthermore, these firms strive to perform its activities more efficiently. Therefore, these firms are moving toward productivity frontier when their costs decreased. Firms in this position tend to be very successful, and this is the state of best practice.

**Box3:** Represents firms with a cost position; these firms must improve their operational effectiveness constantly in order to maintain its profitability. Here buyers are price sensitive and prefer low price products with an acceptable performance. Firms in this position are positioned industry-wide and produce and sell in large scales in order to make profits. Furthermore, a firm with cost position should be the cost leader in its industry for a sustained profitability.

**Box 4:** firms in this case, neither do have position, nor an improved operational effectiveness. Firms in this case will go out of business. However, they do exist only when the exit barriers are high; such as specialized assets and when firms have not returned its investments yet, or these activities have strategic interrelationships that maximize other business units' performance.

*“When a company improves its operational effectiveness, it moves toward the frontier”.*<sup>1</sup> When competition is based only on operational effectiveness, each firm in an industry will implement the same tool (six sigma, total quality management, continuous improvements and lean production), because it is easy to implement through imitation, or as consultants' suggestions. Once all firms have low operational costs, competition tends to be a war-price. *Competition*

<sup>1</sup>Michael E. Porter, "What Is Strategy?" *Harvard Business Review*, (November-December 1996), p. 62.

*based on operational effectiveness alone is mutually destructive.*<sup>1</sup> The state of best practice is a *combination of strategic positioning and operational effectiveness.*<sup>2</sup> It has to be in the previous sequence. Operational effectiveness is necessary but not sufficient; therefore, it must be driven by a strategic direction.<sup>3</sup>

After drawing a distinction between strategic positioning and operational effectiveness; the bellow discussion will address in a great detail the concepts underlying strategic positioning.

### **Section 3: The Principles of Strategic Positioning**

There are three key principles underlying strategic positioning: (the following discussion was developed by Michael E. Porter, in his article "What Is Strategy?" 1996.)

#### **3.1 Creating a unique and valuable position.**

#### **3.2 Making trade-offs.**

#### **3.3 Creating fit.**

### **3.1 Creating a Unique and Valuable Position**

Strategic positioning emerges from three distinct sources which are often overlapped:

**3.1.1 Variety-based positioning:** Serving few needs of many customers.

**3.1.2 Needs-based positioning:** Serving broad needs of few customers.

**3.1.3 Access-based positioning:** Serving broad needs of many customers in a narrow market.

#### **3.1.1 Variety-based Positioning**

Variety-based positioning is based on serving varieties of products or services rather than customer segments. It focuses on serving few or one need of many customers. This positioning is based on choosing a particular product or service from the industry's products and delivering it differently. The product or service varieties are designed to meet only a subset of customers' needs. The Ultra Downy Free and Sensitive Liquid by Procter & Gamble, for example; is designed only to meet the need of women, whom want the fabric of their babies' clothes to be softer, due to babies' delicate and sensitive skin. These customers buy this product for this particular need and buy other products to satisfy other needs, stain removal and fragrance, for example.

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<sup>1</sup> Michael E. Porter, "What Is Strategy?" *Harvard Business Review*, (November-December 1996), p.64.

<sup>2</sup> Karlson Hargroves and Michael H. Smith, *The Natural Advantage of Nations, Business Opportunities, Innovation and Governance in the 21st Century*, (UK: Earthscan, 2005), p. 82.

<sup>3</sup> Michael E. Porter, "Strategy and the Internet," *Harvard business review*, (March 2001), p.12.

### 3.1.2 Needs-based Positioning

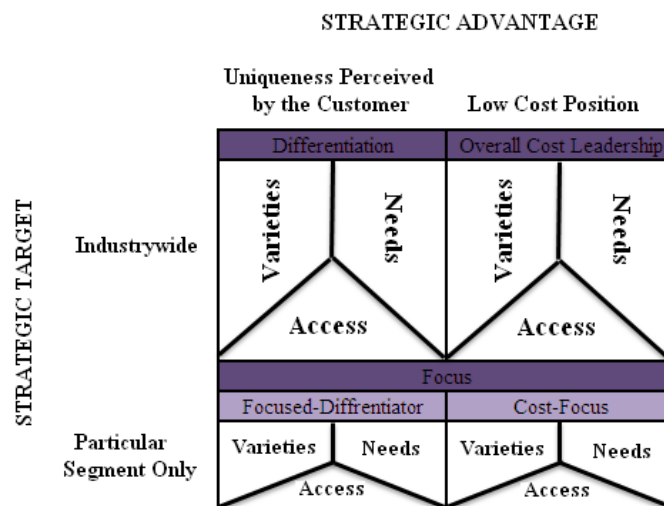
Needs-based positioning, on the other hand is based on customers’ needs of particular segment. It focuses on serving broad needs of few customers. The mobile notebook computer for students and teachers, for example, is designed to meet the needs of writing, reading, low price, presenting works, light to carry it every day and so on. Serving two different segments with the same set of activities will not be profitable, unless these activities differ to deliver a greater value.

### 3.1.3 Access-based Positioning

Access-based positioning is based on meeting similar needs of different segments, but the way of reaching these customers is different. For example, urban and rural customers may have the same needs, yet the activities in reaching them are not the same.

All the bases above can be achieved only, through performing different set of activities than rivals. The first principle of strategic positioning stands for creating a unique position with different set of activities than rivals. These two variables, *unique* and *different* are consistent. Uniqueness can be achieved only through distinctiveness. “*Firms do not win through better sameness, firms win only through uniqueness*”.<sup>1</sup> Besides; Thomas’s J. Peters expression “*Be distinct or extinct*”.

**Figure 1.7:** Strategic Positioning in Greater Specificity



**Sources:** Modified Version by the Author.

The first impression of the bases of strategic positioning reflects to the three generic strategies discussed above. Michael E.Porter stated: “*The bases for positioning -varieties, needs, and*

<sup>1</sup> Philip Kotler, *Marketing Insights from A to Z*, (New Jersey: John Wiley & Sons, Inc, 2003), p. 27.

access - carry the understanding of those three generic strategies to a greater level of specificity".<sup>1</sup> **Figure 1.7** explains the idea

Once a firm chooses a generic strategy - differentiation, overall cost leadership or focus -, to position itself at the broadest level; it goes beyond that, to position itself at the greatest level of distinction, through the bases of strategic positioning - varieties, needs or access -. Therefore, the generic strategies create a position (being different); whereas, the bases for positioning create not only a position, but a sustainable position (being unique), when the chosen set of activities differ.

### 3.2 Making Trade-offs

Trade-offs take place, when a firm is about to make a decision; a choice between alternatives. *"It is rarely a choice between right and wrong. It is at best a choice between 'almost right' and 'probably wrong' "*.<sup>2</sup> Trade-offs occur in defining a firm's business. In order to define a business; a firm must answer the following questions, *"what business is a firm in, and what business is a firm not in? Who is a firm's customer?"*<sup>3</sup> A firm must define its business from the outside, not from the inside because *"the purpose of a business is to create a customer."*<sup>4</sup> Defining a business from the inside means defining a business in term of products. Whereas defining it from the outside means defining it in terms of needs. *"A business must be viewed a customer-satisfying process"*.<sup>5</sup>

As showed in **Figure 1.4** firms have three possible positions to choose among according to its capabilities. In this sense firms make trade-offs in two dimensions: strategic advantage (competitive advantage) -overall cost leadership, differentiation and focus- and competitive target (competitive scope) -broad target or narrow target-. For example, Caterpillar on energy defines its business as the following statement: *"Caterpillar's role is clear. Our customers are in the energy business, and we are working to find ways to help them provide the energy the world needs in a more sustainable manner. We are helping them succeed by helping them become more sustainable and efficient"*.<sup>6</sup> Another example is Bishop Partner's business: *"Bishop Partner is dedicated to excellence in providing executive search consulting to the information, communications, and entertainment industries, including both product and service companies in cable, broadcasting, publishing, new media, and technology"*.<sup>7</sup> Bishop Partner said no to Coca Cola because it is not among Bishop's range of business. A firm cannot serve all customers

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<sup>1</sup> Michael E. Porter, "What Is Strategy?" *Harvard Business Review*, (November-December 1996), p. 67.

<sup>2</sup> Peter F. Drucker, *The Effective Executive*, (New York: HarperCollins Publishers Inc, 2002), p. 150.

<sup>3</sup> Susan Bishop, "The Strategic Power of Saying NO," *Harvard Business Review*, (November-December 1999), p. 8.

<sup>4</sup> Peter F. Drucker, *Managing for Results*, (Harvard Business Review 1964), p. 91.

<sup>5</sup> Philip Kotler and Kevin Lane Keller, *Marketing Management*, Twelfth Edition, (New Jersey: Pearson Prentice Hall, 2006), p. 45.

<sup>6</sup> Caterpillar, 2011 Sustainability Report, p. 5.

<sup>7</sup> Susan Bishop, "The Strategic Power of Saying NO," *Harvard Business Review*, (November-December 1999), p. 8.



through one position. Firms that do not make trade-offs are firms *stuck in the middle* and make below average return on investments.

Firms want to pursue more than one position, have the possibility to create a separate business units. Consequently, each business unit performs different activities and has its own value chain, because competition does not occur at a corporate level; it occurs only at a business unit level.<sup>1</sup> Therefore, each strategic business unit has its own distinct activities than other strategic business units, to fulfill a distinct need. This is the case of corporations that divide its businesses into strategic business units (SBU); each strategic business unit is identified through: customer group (competitive scope), customer's needs (competitive advantage) and technology (value chain). The corporation's task after dividing its businesses is finding interrelationships between these business units.

Trade-offs are extremely hard to make, because it requires a firm to: (1) turn down other businesses, (2) disappoint and let go other customers, and (3) limit a firm's offers. Its advantages, though, exceed its disadvantages; trade-offs allow a firm to focus more on its customers - a satisfying customer becomes a delightful customer -, turning its customer into profitable customers, a firm becomes more experienced in its business and in addition to other advantages. In sum, trade-offs call for competitive advantage. A firm seeking for a competitive edge has to make trade-offs to gain a clear position among rivals.

### 3.3 Creating Fit

Fit is one of the oldest fundamentals in strategy, but it has been forgotten due to operational effectiveness. Fit means how a firm's activities are interrelated in a complementary fashion to form an activity system. Achieving a system of activities requires a firm to coordinate its traditional separate activities. Such a system prevents competitors from imitating a firm's best practices because the final products or services alike are generated not from one or two activities, but from several interconnected activities.

The term "*complement*" is used in its broadest sense; a relation among group of activities not only pairs of activities.<sup>2</sup> Complementary is defined as: "*Activities are Edge-worth complements if doing (more of) any one of them increases the returns to doing (more of) the others*".<sup>3</sup> Performing one activity makes another activity more attractive. Achieving fit is difficult than it seems because it requires organizational, strategy and processes changes to create strategic interrelationships among them.

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<sup>1</sup> Michael E. Porter, "From Competitive Advantage to Corporate Strategy," *Harvard Business Review*, (May-June 1987), p. 3.

<sup>2</sup> Paul Milgrom, and John Roberts, "The Economics of Modern Manufacturing – Technology, strategy and organization," *The American Economic Review*, 8 (3), (June 1990), p. 514.

<sup>3</sup> Paul Milgrom, and John Roberts, "Complementarities and Fit - Strategy, Structure, and Organizational Change in Manufacturing," *Journal of Accounting and Economics*, 19, (1995), p. 181.

The above definition illustrates only the positive direction of fit. Hence, as a system, an upward or downward tendency once occurred tends to continue.<sup>1</sup> Several activities are interrelated and interdependent to each other, thus if one fails to perform its tasks, the second activity will fail. When an activity fulfills its liabilities, it makes it easier for the others. Complementary activities are ordered, therefore, implementing a first order activity is prerequisite to implement a second order activity and so forth.

Fit among activities leads to a sustainable competitive advantage. (1) The advantage edge because activities reinforce each other -. Once the activities are shared, the costs become lower or the differentiation becomes higher -. (2) Sustainability because the activities are interdependent and interrelated as a system; which cumulate and get layered one above another, which makes it harder to competitors to imitate all the system at once<sup>2</sup>. The following example illustrates how Lincoln's Electric Company activities fit together to create a system.<sup>3</sup>

Lincoln Electric Company was first founded in 1895 by John C. Lincoln, as an electric motors and generator manufacturer. Its focus turned into manufacturing the arc welding machines in 1911. Lincoln electric became the leading arc welding equipments by the World War II; and it has been its primer focus since. Lincoln's strategy has been producing quality products at the lowest prices.

The Lincoln's success and strategy remained still since it had founded due to complementarities. The company has an incentive activity-system based on the following three components:

- Wages based on piecework output.
- Year-end bonus.
- Guaranteed employment.

When workers are paid according to the pieces they produce, their primer focus will be on the produced amount and certainly overlook quality and teamwork. To counter these issues, the company assigns foremen to rate the workers according to: dependability, quality, output, ideas and cooperation. Each worker has to put his own stencil on every machine he works on; therefore, in case of a defect; the company knows who is responsible.

In order to counter strikes, turnovers and union; the workers employment is guaranteed. However, in recession periods the company assigns new tasks to workers in order the keep them employed. In recession the company builds its own components, and in periods of high activity

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<sup>1</sup> Paul Milgrom, and John Roberts, "Complementarities and Fit - Strategy, Structure, and Organizational Change in Manufacturing," *Journal of Accounting and Economics*, 19, (1995), p. 187.

<sup>2</sup> Michael E. Porter, "What Is Strategy?" *Harvard Business Review*, (November-December 1996), p. 74.

<sup>3</sup> Norman Fast, "The Lincoln Electric Company," *Harvard Business School Case*, 9-376-028, (July 29, 1983), pp. 1-30.

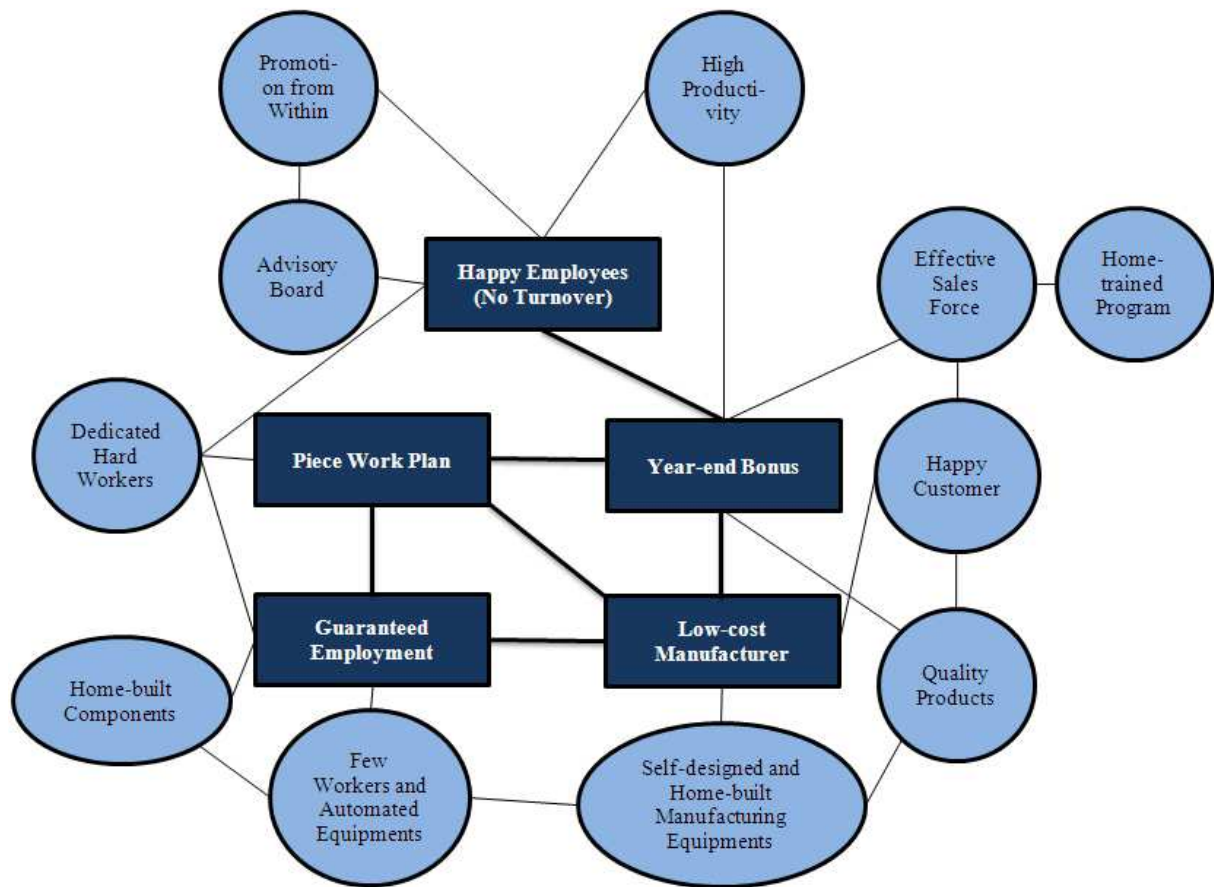
the workers go back to their initial jobs and the company buys the components from foreign suppliers. The company also fills promotion positions from within, which reduces the turnover. All employees are treated equally, and the company has a policy that all people are management. Thus, workers can express their feeling and issues to top management without fear. Likewise, barriers are broken between the two parties due to continuous communication. To solve workers issues, a meeting of Advisory Board held twice a month to discuss the workers concerns. All the previous conditions led Lincoln to have the lowest turnover by 0.5% in 1970, comparing to its competitors of 5% in the same year.

Unlike competitors, Lincoln insures sales through its effective, home-trained sales force and not through distributors; even training is considered as an activity at Lincoln. This sales force is familiar with Lincoln's products and solves customers' problem expeditiously on the spot, which yields a satisfied customer. Lincoln loses customers only on delivery. To insure the sales force productivity, they are also offered the year-end bonus according to sales rate.

To remain a low cost manufacturer the company designs and builds its own manufacturing equipments and modified the purchased equipments to work faster (Lincoln's plants value are the lowest in the industry; in 1974 Lincoln's inventory value exceeds the value of its land, buildings and manufacturing equipments all together). Besides building its components in recession periods, it rewards workers for cost-cutting ideas.

Hence, all Lincoln's activities fit together in a complementary fashion. **Figure 1.8** maps Lincoln's activity system. The boxes in dark blue represent the higher-ordered strategic themes that can be implemented through the clusters of linked activities in light blue.

Figure 1.8: Lincoln’s Electric Company Activity System



Source: Personal Efforts

# Conclusion

Firm that wants to position itself among rivals must understand its industry structure and its competitors' behavior, as the first step. Then, choose the appropriate generic strategy - overall cost leadership, differentiation or focus- that copes with the industry structure and matches a firm's capabilities as the second step. Then a firm can go into a specific level of positioning through the bases of strategic positioning - varieties, needs and access-. After understanding that competition in operational effectiveness alone is noxious for a firm and the industry as well; the formula to outperform rivals is a combination of strategic positioning and operational effectiveness.

Strategic positioning must be seen as a way to generate superior return on investment; market share and other goals will follow. In order to be distinctive, a firm must deliver a distinctive value proposition to its customer that it stands for and tailored to a distinctive value chain. The bases of strategic positioning are for positioning a business at a greater level; but in order to gain a sustainable competitive advantage, a firm is required to make trade-offs and create fit among its activities, to create an activity system that distinguishes it from rivals and to protect its best practices from imitators.

**CHAPTER TWO**  
**-CUSTOMER VALUE-**

# Introduction

Companies competing on value are broadly classified into two categories, in which they differ in the amount of value delivered to customers. This chapter illustrates a distinction between the two categories of value providers. The term value in this chapter is used from the customer perspective. The chapter goes further to discuss the basic concepts of how consumer evaluate, learn and develop knowledge about various objects. Knowledge is stored in memory at various levels of abstraction; that is, from a simple concrete less abstraction level to high personal intangible more abstraction level.

Creating and delivering value require a company to pay major attention to the two components of value. The chapter then proceeds to discuss an effective segmentation procedure that significantly produces distinct segments. This chapter also demonstrates how to communicate the created value to the targeted customer. The chapter ends with an analysis that determines the importance customer attaches to product attributes. This analysis is used afterwards in measuring customer value.

Companies pursue different business orientations; each one serves specific market conditions. However, when competition becomes inevitable and fierce; companies start striving to win the mind and the heart of customers. This latter, makes companies focus on their customers; consequently, who is the customer?

## 1 Definition of the Customer

*“The customer is an asset that can either appreciate or depreciate.”<sup>1</sup>*

Customers are the most important asset in the company; though, they do not exist in the ledger. The customer become an appreciating asset only if a company serves its customers well and seeks retaining them. Otherwise, customers become a depreciate asset, and may become the competitor’s appreciate asset. Therefore, customers determine the success and the failure of a company.

Thinking about customer as an asset, leads companies to switch inside-out thinking to outside-in thinking. Even *Henry Ford* who once did not care what customer wanted and produced only black cars said: *“it is not the employer who pays the wages...; it is the customer who pays the wages.”* This makes the mantra that the customer is a king 100% true.

## 2 Market-Driven Versus Market Driving Companies

When a company starts thinking from outside-in, it can be either market-driven or market-driving. Market driven and market driving are orientations dedicated to customer as the starting point of a business.

### 2.1 Market-Driven Company

Market-driven company, starts by identifying and understanding customer’s needs and fulfill them, which is the marketing fundamental basis. Bernard Jaworski defined a market-driven company as: *“business orientation that is based on understanding and reacting to the preferences and behaviors of players within a given market structure.”<sup>2</sup>* Companies following this orientation are guided by their industry structure; they accept the rules of the game. In this perspective, hearing the voice of customer is the key to success.

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<sup>1</sup> Gautam Mahajan, *Customer Value Investment Formula for Sustained Business Success*, (California: SAGE Publications Inc, 2007), p. 16.

<sup>2</sup> Jaworski Bernard J., Ajay K. Kohli, and Arvind Sahay, “Market-Driven Versus Driving Markets,” *Journal of the Academy of Marketing Science*, 28 (1), (WINTER 2000), p. 45.



The market-driven companies are reactive to environment; however, when the environment become static, the factors that drive the company become hard to identify. Companies that are driven by their environment must stay alert in looking for, grabbing and to be the first reactor to opportunities; because the value of each opportunity is depleted when it is shared by other competitors.

Market-driven companies are known by its incremental innovations derived from their heavy reliance on marketing research. A company that is not market-driven and does not understand its customer is committing the two deadly sins in marketing.<sup>1</sup>

Whilst every competing company is focusing on customer needs and wants. These needs are becoming rare and hard to identify, if there still any; because each company is becoming talented in extracting needs even the latent ones, which arise the following question; is it enough to only react to the environment by seeking customers' needs and fulfill them in a no-need-society and highly competitive environment?

## 2.2 Market-Driving Company

Answering the previous question is critical to ensure great success; companies can consider driving the market instead of being driven by the fluctuated environment. Companies that are market-driving do not wait for a need to appear. Market-driving company is defined as: "*a company that creates new products that people may not have asked for, but afterwards thank them for.*"<sup>2</sup> The main perspective of this orientation is not to serve a need but to create a need; as Akio Morita of Sony described the company's key to success: "*we do not serve markets, we create markets*". That is, again is the purpose of any business, which, is to create a customer.

Companies following this orientation do not wait for needs appearance; they create a need and teach customers how to use the product accordingly. Who asked for Apple's I Phone, Sony's camcorders or Ford's car that parks itself. That is the reason why great companies do not reach only customers' satisfaction but create the "wow effect"<sup>3</sup>; or as Adrian J. Slywotzky referred to companies that are doing exponentially better are the ones that create products that excite people.<sup>4</sup> In addition to create a satisfied and delighted customer, these companies are creating fans of their brands.

To be a market-driven a company must focus on customers' needs. Whereas, being a market-driving entails a company to focus both on customer and then, innovation. **Table 2.1** summarizes market-driven and market-driving orientations.

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<sup>1</sup> Philip Kotler, *Ten Deadly Marketing Sins*, (New Jersey: John Wiley and Sons, Inc, 2004)

<sup>2</sup> Philip Kotler, *Marketing Insights from A to Z*, (New Jersey: John Wiley & Sons, Inc, 2003), p. 171

<sup>3</sup> William C. Johnson, Art Weinstein, *Superior Customer value in the new economy*, second edition (Florida: CRC PRESS, Boca Raton), p. 3.

<sup>4</sup> Adrian J. Slywotzky and Karl Weber, *Demand: Creating What People Love Before They Know They Want it*, (New York: Crown Publishing Group, 2011), p. 6.

Market-driving companies are risk takers, because their success is based on radical innovation on two dimensions- (1) *a discontinuous leap in the value proposition and a (2) unique business system*.<sup>1</sup> As discussed earlier in the first chapter, a unique business system (activity system) allows a company to establish a sustainable competitive advantage. In this perspective, a unique business system is considered as a radical innovation in marketing or as referred to “*marketing breakthrough*”.

**Table 2.1:** Market-Driven versus Market-Driving

	<b>Market-Driven</b>	<b>Market-Driving</b>
<b>Marketing strategy</b>	Differentiated marketing (what image to build?)	Revolutionary marketing (how to change the rules of the game?)
<b>Segmentation strategy</b>	Market segments	Destroy industry segmentation
<b>Market research ‘Focus’</b>	Market sensing (what does the market want?)	Forward sensing (how can the marketplace evolve)
<b>‘Listen to’</b>	Voice of the market	Seeing differently
<b>Price management</b>	Perceived value	New price points
<b>Sales management</b>	Sell image	Customer education
<b>Channel management</b>	Product/market fit	Channel reconfiguration
<b>Brand management</b>	Broadcast for brand equity	Exploit ‘buzz network’
<b>Customer service</b>	Tactical weapon	Overwhelm expectations
<b>Product development</b>	Incremental innovation	Radical innovation

**Source:** Kumar Nirmalaya, Lisa Scheer, and Philip Kotler, “From Market-driven to Market-driving,” *European Management Journal*, 18 (2), (April 2000), p. 132.

Relying solely on radical innovation is a trap that drags companies into enormous losses. Once these companies made a “hit” through radical innovation breakthrough; a new assumption will be conveyed across the company. That is, the key to success is innovation. Partly yes, but focusing on innovation alone leads companies to think that a superior product will sell itself, which is the traditional product orientation. That is, focusing on innovation and foregoing marketing.

Market-driving companies are guided by a vision to change the industry structure. That is, creating new customers, new competitors and new suppliers. These companies understood the importance of “change”. As stated by Theodore Levitt: “*the best way for a firm to be lucky is to create its own luck*”.<sup>2</sup> Companies create their own opportunities, not getting head-to-head with rivals on the same opportunity. Companies that drive markets are continuously killing their product lines because they understood that if they won’t make their products obsolete, another will.

<sup>1</sup> Kumar Nirmalaya, Lisa Scheer, and Philip Kotler, “From Market-driven to Market-driving,” *European Management Journal*, 18 (2), (April 2000), p.130.

<sup>2</sup> Theodore Levitt, “Marketing Myopia,” *Harvard Business Review*, (September-October 1975), p. 7.

## Section 1: Customer Perceived Value (CPV)

To begin with, there are some overlapped thoughts about the value concept that need to be clarified. Value as a business concept takes several perspectives. There is customer value, high-value customers and value of a firm.<sup>1</sup> The latter two concepts describe value from a firm perspective. High-value customer is how much do customers worth to a firm or also known and measured by customer life time value; the value of a firm on the other hand is how much a firm worth to its shareholders. The first value concept, which is customer value is from a customer perspective. This chapter will deal with this latter aspect of value.

Customer perceived value (CPV), as the term indicates, customer perception of value; it is not an objective or actual value that can be accurately measured, it is a value that is perceived by customers, it is intangible or subjective. These first lines will occupy several definitions to reveal the shell on the concept.

### 1.1 Definition of Perception

*“Perception is the process by which an individual selects, organizes, and interprets information inputs to create a meaningful picture of the world.”<sup>2</sup>*

*“Perception basically involves the process of categorization. That is, one tends to place new experiences into existing classification of familiar experiences.”<sup>3</sup>*

The above definitions will be broken into the following points:

- **Process:** both authors in the above definitions agree that perception is the effect of the cause “process”, which is a series of steps.
- **An individual:** since there is no standardized customer to use as a reference; perception varies from an individual to another, which creates different perceptions of one product. This is not in advantage for a company. For example, a customer may see a Ferrari as an expensive automobile, another as fast, another as red, another as luxurious, and, the list goes on. That is why companies spend heavily on advertising to guide perception to its own favor.

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<sup>1</sup> Robert B. Woodruff, “Customer Value the Next Source of Competitive Advantage,” *Journal of the Academy of Marketing Science*, 25 (2), (Spring 1997), p. 140.

<sup>2</sup> Bernard Berelson and Gary A. Steiner, *Human Behavior: An Inventory of Scientific Findings*, (New York: Harcourt, Brace Jovanovich, 1964), p. 88.

<sup>3</sup> Monroe B. Kent, *Pricing: Making Profitable Decisions*, (New York: McGraw-Hill, 1990), p. 45.

- **Selects, organizes and interprets:** due to contacts and touch points, a customer touches, hears, sees, tastes and smells. These five senses allow a customer to gather loads of information and since a human brain is unable to store all the available information, the customer **selects** (attends) which to keep and which to ignore. Then, the customer **organizes** (creates knowledge structure) the selected information; hence, it will be retrieved or activated when needed. Finally, a customer **interprets** (makes sense) new situations according to the organized information.

In the second definition, the author substituted those three steps by the process of **categorization**. Thus a person organizes experiences into clusters; these clusters of experiences might be used as references.

- **Create meaningful picture of the world:** those information might be used to understand or at least infer a particular situation. As mentioned in the second definition a person in order to explain a current experience, uses familiar experiences already has.

## 1.2 Affective and Cognitive Responses

Past experiences or knowledge that is stored in memory, are collected after the exposure of consumer to the environment. When encountering a situation, a consumer unleashes psychological responses whether affective or cognitive.

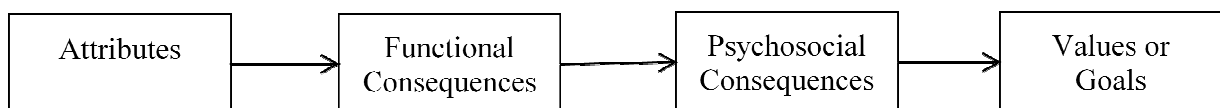
Affect is the physical state of a consumer, responses that happen within the consumer's body (feeling angry about a company's bad services). Affective responses occur at four distinct levels -emotions, feeling, moods and evaluation-; these levels are ranked into the previous order according to their strength and intensity on human body. Affective responses are generated by the affective system. This system is reactive to every object or situations within the environment. Furthermore, affective responses, for example, love, happiness, satisfaction, bored and like, are produced unconsciously, which leads to either positive or negative physical reactions. Finally those reactions cause learning about one self's affective responses. For example, someone perhaps had negative reactions to crowded malls, which leads to the avoidance of these malls. Cognition, in contrast, is consumer's mental state (I think the new Porsche is going to be a hit). Cognitive responses are generated by the cognitive system. As affective system, consumers unconsciously interpret any object or situation they encounter. The cognitive system interprets and understands a particular situation; those interpretations are processed to create new knowledge and meanings (accretion process) for that experience. Therefore, a consumer is cognitively learning. Continuous learning from the environment causes continuous new knowledge stored in memory; and since this latter has limited capacity, consumers integrate, accumulate, and, combine knowledge (tuning process) with other affective responses to make an overall meaning to be used in a decision making. Interpretation creates separate meaning or small

parts of knowledge (less abstract meaning); however, these less abstract meaning are combined into high level of abstraction. Consumer memory stores product knowledge in three levels - product attributes, consequences (functional and psychosocial), and, values or goals-. These levels are interconnected through the means-end chain.<sup>1</sup>

### 1.3 The Means-End Chain Model of Product Knowledge

The means-end chain emphasizes on linking consumers' hierarchically product related knowledge, from a less abstract concrete level (product attribute) to a more abstract personal level (consequences and values). It is called a means-end chain because consumers consider product attributes as a *mean to a desirable end*. The following figure will illustrate the mean-end chain model.

**Figure 2.1:** The Means-End Chain Model



**Source:** Jerry C. Olson and Thomas J. Reynolds, “The Means-End Approach to Understanding Consumer Decision Making,” in *Understanding Consumer Decision Making, the Means-End Approach to Marketing and Advertising Strategy*, edited by Thomas J. Reynolds and Jerry C. Olson, (New Jersey: Lawrence Erlbaum Associates, Inc, 2001), p. 13.

Products whether simple e.g. (pen) or complex e.g. (LCD TV) have several attributes. Marketers often manipulate customers by adding appealing attributes to their products. Attributes alone as concrete, physical, tangible components of a product are unimportant or irrelevant to consumers; unless, these attributes have meanings or consequences (benefits). Therefore, a consumer purchases a consequence(s), not attributes, per se. There are two types of consequences functional and psychosocial. Functional consequences occurred or experienced sooner after consuming a product e.g. (using this toothpaste makes my teeth whiter). After experiencing the product functional consequences; these latter lead to more abstract emotional consequences; these consequences can be whether psychological consequences e.g. (I feel that my teeth are the whitest) or social consequences e.g. (others will notice my white teeth). These two types of emotional consequences are integrated into psychosocial consequences. These consequences, in turn lead to even a higher level abstraction which are the values or goals of using a product (the desirable ends). These values are highly personal e.g. (this toothpaste makes me happy or confident); the values are considered as emotions. Values or perceived personal

<sup>1</sup> Peter J. Paul and Olson Jerry C., *Consumer behavior and marketing strategy*, Ninth Edition, (New York: McGraw-Hill, 2010), pp. 39-59.

relevance are what drive consumers to make a decision about which product to consume or which product to prefer.<sup>1</sup>

The above discussion is a conceptual background to understand how customers start to perceive value. The following discussion will deal with customer value much deeper.

#### 1.4 Definition of Customer Perceived Value

*“Perceived value is the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given.”<sup>2</sup>*

*“Buyers’ perception of value represents a trade-off between the quality or benefits they perceive in the product relative to the sacrifice they perceive by paying the price.”<sup>3</sup>*

*“Customer perceived value is the difference between the prospective customer’s evaluation of all the benefits and all the costs of an offering and all the perceived alternatives.”<sup>4</sup>*

The focal points of the definitions above are:

- **Subjective not objective:** all authors agree that value as an objective measure does not exist. In contrast, value is a subjective and a perceived measure. As illustrated in the discussion above about the means-end chain, value is intangible and highly personal.
- **The get and give mental process:** perceived value is an assessment, trade-offs, or, differences between the get components and give components. The get components are what customers receive from a product as benefits or consequences; whereas, the give components are what customers sacrifice in order to receive those benefits. The authors agree on the point that what is given, is, all the sacrifices. Quite likely, they agree that the get components are the bundle of benefits that a customer might extract from a product. The model in **Figure 2.2** illustrates all the give, and, get components.

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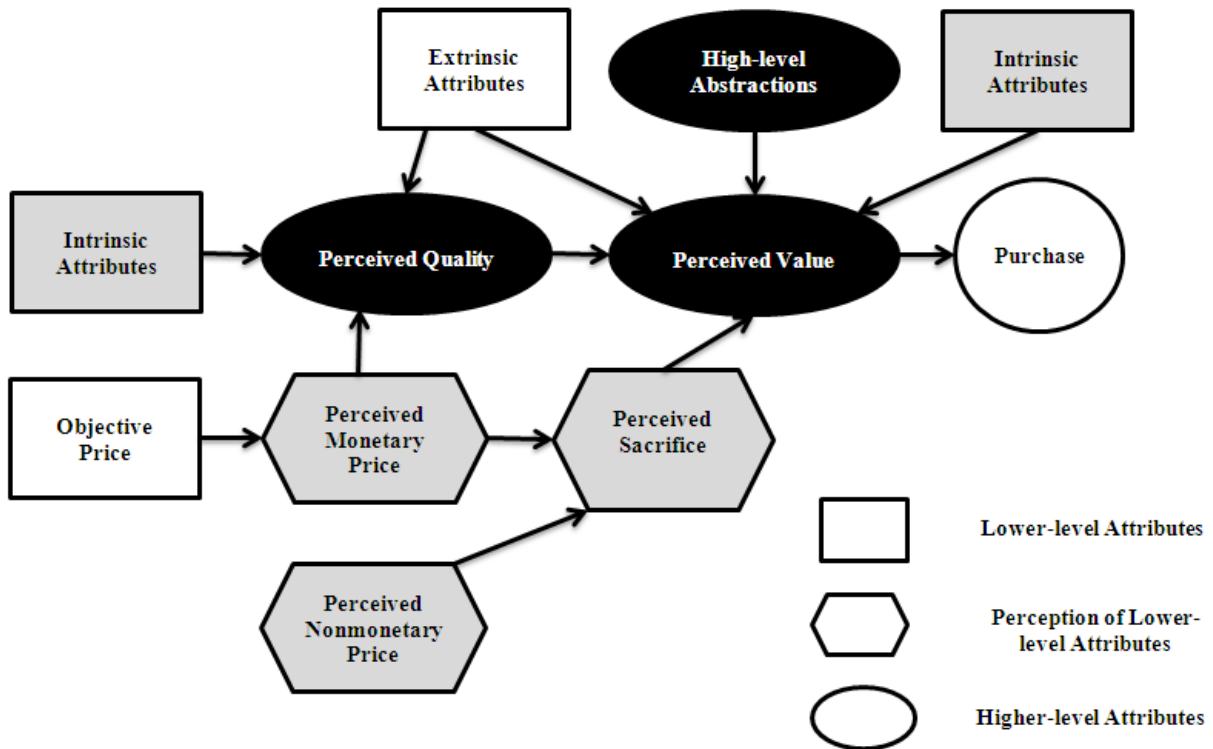
<sup>1</sup> Jerry C. Olson and Thomas J. Reynolds, “The Means-End Approach to Understanding Consumer Decision Making,” in *Understanding Consumer Decision Making, the Means-End Approach to Marketing and Advertising Strategy*, edited by Thomas J. Reynolds and Jerry C. Olson, (New Jersey: Lawrence Erlbaum Associates, Inc, 2001), pp. 8-17.

<sup>2</sup> Valarie A. Zeithaml, “Consumer Perceptions of Price, Quality, and Value- A Means-End Model and Synthesis of Evidence,” *Journal of Marketing*, 52 (3), (July 1988), p. 14.

<sup>3</sup> Kent B. Monroe, *Pricing: Making Profitable Decisions*, (New York: McGraw-Hill, 1990), p. 72

<sup>4</sup> Philip Kotler and Kevin Lane Keller, *Marketing Management*, Twelfth Edition, (New Jersey: Pearson Prentice Hall, 2006), p. 141.

Figure 2.2: A Means-End Model Relating Price, Quality, and Value



Source: Valarie A. Zeithaml, “Consumer Perceptions of Price, Quality, and Value- A Means-End Model and Synthesis of Evidence,” *Journal of Marketing*, 52 (3), (July 1988), p. 4.

### 1.4.1 The Perceived Sacrifices

In order to get a product, customers have to go on through sacrifices. As the model manifests, perceived sacrifices are dichotomized into two types - perceived monetary price and perceived non-monetary price - .

Monetary price is “*what a customer has to give in order to get the product*”<sup>1</sup>. The objective monetary price is provided to customers in price tags. Though, perception of monetary price varies across customers, due to income level and the source of obtaining that income. For example CEO’s income versus a janitor’s and, income obtained from work and another from thievery. Non-monetary price on the other hand, is important to customers, though, overlooked by marketers. Non-monetary price, per se, includes - time, efforts and psychic costs -. Time is considered as a cost when customers spend significant amount of it traveling to get, learning to use a product and waiting in checking lines to pay for it. Consumers in nowadays are becoming

<sup>1</sup> Olli T. Ahtola, “Price as a ‘Give’ Component in an Exchange Theoretic Multicomponent Model,” *Advances in Consumer Research*, 11, (1984), p. 624.

time conscious, trying to organize their schedule to perform as much as possible tasks in order to save time in the next day, to do something else. The success of the dot-com and ready food chains is based on saving time for customers by charging relatively high prices. Another non-monetary price includes customers' efforts (behavior efforts). Roaming in malls to purchase is considered as a fatigue task to customers, especially working ones. This is the reason why several malls have coffee shops, food chains, gardens and benches, to offer resting spots to their customers. The last non-monetary cost is psychic costs (cognitive activities); psychic costs involve thinking, evaluating and deciding which item to buy. These activities are pretty demanding, especially in the first purchase. The non-price sensitive customers are willing to purchase expensive, a brand which they are loyal to or trust, to reduce the non-monetary costs. Whereas, the price-sensitive customers are likely to travel long distances, checking catalogs from cover to cover, surfing all the web site pages, delivering and resemble products themselves to reduce the monetary price. The IKEA customers, for example, do their own delivery and resemble the furniture by themselves.<sup>1</sup>

### 1.4.2 The Benefits

In the model provided above, the components that lead to value, besides sacrifice components are - intrinsic attributes, extrinsic attributes, perceived quality and high level abstractions -. These components are similar to those provided by the means-end chain in the previous discussion. Stated differently, these benefits are linked to value starting from less abstract level to more level of abstraction.

Every product has several attributes (12 in ground coffee). Though, customer cannot evaluate all the attributes; rather, they evaluate only the ones that are perceived to deliver benefits. These benefits result in two types - functional benefits or emotional benefits -.

Attributes can be intrinsic or extrinsic. The intrinsic attributes are product specific, tangible, represent the physical characteristics of a products and cannot be changed unless the product changes; for example, color in beverages, size of the TV screen, and the number of cylinders in a car. Extrinsic attributes, on the other hand, are intangible and not part of physical characteristics of the products, these attributes are product related; price, brand name and brand image are examples of extrinsic attributes. As mentioned earlier value is extremely personal; customers might buy a product for one specific attribute. For example, customers might think that others will recognize them by wearing an expensive, well-known brand. Diet Coke for example, contains less sugar in comparison to classic coke makes it a bit healthier. In sum, attributes whether intrinsic or extrinsic, are desirable consequences customers want to find in a product. Attributes per se, are not always linked to value; they interact with each other and have different consequences that form a high level abstraction to deliver personal benefits.<sup>2</sup>

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<sup>1</sup> Valarie A .Zeithaml, "Consumer Perceptions of Price, Quality, and Value- A Means-End Model and Synthesis of Evidence," *Journal of Marketing*, 52 (3), (July 1988), pp. 10-11 and Peter J. Paul and Olson Jerry C., *Consumer behavior and marketing strategy*, Ninth Edition, (New York: McGraw-Hill, 2010), pp. 442-446.

<sup>2</sup> Olson Jerry C. and Jacob Jacoby, "Cue Utilization in the Quality Perception Process," *Proceedings of the Third Annual Conference of the Association for Consumer Research*, (1972), pp. 167-74 and Valarie



Charging high prices might signal high quality, but it decreases value and certainly decreases the willingness to buy. Therefore, companies seeking to improve or maximize their customer value have got two alternatives not mutually exclusive. Companies can raise functional or emotional benefits and preserve prices (costs), or, decreasing the costs of an offer and maintaining the level of benefits. The most desirable combination to deliver a leap in customer value is to raise benefits and reducing the cost of obtaining these benefits, simultaneously.<sup>1</sup>

Delivering greater benefits at the lowest costs to customers is an outstanding view, however, the following question arises; do all company's customers value the benefits delivered to them? In order to be recognized and perceived as a leap values deliverer, companies need to operate and heavily focus on their various segments. These segments are not extracted through traditional segmentation methods - geographic, demographic or psychographic segmentation -. Differences between segments are based on benefits that customers appreciate. For example, Russell I. Haley (1968) found four segments of the toothpaste market - the sensory segment (based on flavor and product appearance), the sociable segment (based on brightness of teeth), the worriers segment (based on the benefit of decay prevention) and the independent segment (based on price) -. Benefit segmentation help companies build a positioning strategy based on benefits, not attributes or product class; which is the most recommended positioning strategy. Positioning based on benefits makes the positioning statement stick to the mind of consumers and last longer than other positioning dimensions.<sup>2</sup> For example, Volvo's positioning has been "safety"; Volvo will be the first consideration, if a customer is looking for a safer car. A safer car may result happiness and mind free from worries, which is a goal or a value a customer has been seeking.

## Section 2: Value Proposition

Product's benefit must be delivered, in order to be tested whether these benefits result values experiences to customers or not. This section major concern, is the resulting experiences and how companies communicate them.

### 1.1 Definition of Value proposition

*"The value proposition consists of the whole cluster of benefits the company promises to deliver; it is more than the core positioning of the offering... Basically, the value proposition is a*

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A .Zeithaml, "Consumer Perceptions of Price, Quality, and Value- A Means-End Model and Synthesis of Evidence," *Journal of Marketing*, 52 (3), (July 1988), pp. 13-15.

<sup>1</sup> William B. Dodds and Kent B. Monroe, "The Effect of Brand and Price Information on Subjective Product Evaluation," *Advances in Consumer Research*, 12, (1985), pp. 85-90, Philip Kotler and Kevin Lane Keller, *Marketing Management*, Twelfth Edition, (New Jersey: Pearson Prentice Hall, 2006), p. 141 and Kent B. Monroe, *Pricing: Making Profitable Decisions*, (New York: McGraw-Hill, 1990), pp. 93-94.

<sup>2</sup> Russell I. Haley, "Benefit Segmentation: A Decision-Oriented Research Too," *Journal of Marketing*, 32 (3), (July1968), pp. 30-35.

*statement about the resulting experience customers will gain from the company's market offering and from their relationship with the supplier".<sup>1</sup>*

*"Value proposition - a decision and commitment to deliver a specific combination of resulting experiences, including a price, to a group of targeted customers, profitably and better than competition".<sup>2</sup>*

The definitions above focus on the following points:

- **A promise:** products are packages of benefits that a company promises to deliver to customers, and, since customers value honesty, and, trust is difficult to build with customers; these benefits must hold out to be true; otherwise, the company loses its credibility.
- **Combination of resulting experiences:** as can be noticed from both definitions, value proposition's focal point is the resulting experiences. Along the process of purchasing a product, consumers encounter experiences, which ultimately result either positive or negative consequences. Value proposition ensures that the resulting experiences maximize customer value; positive consequences increase customers' likelihood to repurchase from the same company. The value proposition must be communicated and applied throughout the whole company, because customers start experiencing the brand at any touch point. These experiences must maximize customer value along the process; therefore, these values gained from each step accumulate to be one overall enjoyable experience. The experiences gained in this process constitute the value delivery system.
- **It is more than the core positioning:** value proposition is usually overlapped with positioning. Positioning is defined as: "*Positioning is what you do to the mind of the prospect*".<sup>3</sup> Or "*Brand positioning refers to the specific, intended meaning of the brand in the mind of targeted consumer*"<sup>4</sup> positioning aims to target the consumer's mind with a specific dimension of one attribute or one benefit, and, focuses on it as a point-of-difference in that product category. In contrast, value proposition is not what a company does to its consumers' mind, but, what to deliver to them in term of benefits. For example, Lexus's main focus is luxury, as stated: "*when you buy a Lexus, you don't buy a product. You buy a luxury package*".<sup>5</sup> But customers are

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<sup>1</sup> Philip Kotler and Kevin Lane Keller, *Marketing Management*, Twelfth Edition, (New Jersey: Pearson Prentice Hall, 2006), p. 143.

<sup>2</sup> Michael J. Lanning, "An introduction to the market-focused philosophy, framework and methodology called Delivering Profitable Value," *The DPV Group, LLC*, (2000), p. 2.

<sup>3</sup> Al Ries and Jack Trout, *Positioning: The Battle for Your Mind*, (New York: McGraw-Hill, 2000), p. 3.

<sup>4</sup> Alice M. Tybout and Brian Sternthal, "Developing a Compelling Brand Positioning," in *Kellogg on Marketing*, edited by Alice M. Tybout and Bobby J. Calder, (New York: John Wiley & Sons 2010), p. 73

<sup>5</sup> George E. Borst, President and Chief Executive Officer of Toyota Financial Services (TFS).

promised other benefits such as - fast car, extraordinary services and dealer network, stylishness and so forth -. Positioning may lead to purchase, but, value proposition leads to loyalty. In comparing value proposition with positioning; this latter can be a part of value proposition.

## **2.2 Communicating Value Proposition**

Value proposition must be appealing in the eyes of customers against rivals. However, value proposition is conveyed in three ways - all benefits, favorable points-of-difference, and, resonating focus - <sup>1</sup>:

### **2.2.1 All Benefits**

As emphasized in the first definition, a company's value proposition is the *whole cluster of benefits* delivered to customers. However, the following question arises; are all the claimed benefits perceived to be valuable to customer? Including as much as possible benefits to a product requires additional attributes, which in turn, increases the costs of obtaining the product. Including benefits and neglecting customer's appreciation to those benefits, will definitely decrease customer value.

Value proposition as all benefits, answers the question - why should a customer do business with the company? But answering the question - why should this customer do business with this company and not with its rivals requires a different value proposition.

### **2.2.2 Favorable Points of Difference**

Focusing heavily on delivering value proposition better than competition, leads to the illusion of possessing different benefits than rivals will distinct the company's offer and, it will be acceptable by customers because it is different. However, are these differences in value to customers, do these benefits lead to positive experiences?

Points-of-difference to be included in value proposition must be, first desirable by customers. Benefits are perceived to be desirable if it is linked to unique consequences; consequences that a customer is unable to find in competitors' offering. Second, the ability to be delivered by a company; delivering the points-of-difference must be controlled by the company, allowing it to

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<sup>1</sup> James C. Anderson, James A. Narus, and, Wouter Van Rossum, "Customer Value Proposition is Business Markets," *Harvard Business Review*, (March 2006), p. 2.

gain extra profits than rivals and the different that locks competitors out.<sup>1</sup> Points of difference that are desirable, controlled, profitable and inimitable can be an effective value proposition.

### 2.2.3 Resonating Focus

Resonating focus value proposition contains points of parity that deliver the least acceptable value, and, emphasizes on the points of difference that deliver the most unique and the highest value to customers. Resonating focus value proposition is the most recommended, because it leads to remembered and enjoyable experiences, the ones that customer will want to experience again.

As discussed earlier, the best way to reach customers is by segmenting them into segments based on benefits as the differentiation criterion. To communicate its value thoroughly and effectively, a company needs to construct a value proposition statement dedicated to each segment, a segment that was produced through benefit segmentation. It is a challenging task to construct the right value proposition; though, a company keeps its promises when it is communicated through the right value proposition.

## Section 3: Assessing Customer Perceived Value

The most reliable and inclusive approach to address customer perceived value is the means-end approach. The means-end approach is a qualitative method that relies on laddering technique, which in turn requires in-depth, one-on-one interviews with consumers. The means-end approach is concerned with identifying two fundamental issues in understanding consumer decision making: (1) *what are the salient choice criteria do consumers use in evaluating and choosing alternatives?* And (2) *why are these choice criteria personally relevant to these consumers?*<sup>2</sup>

Using the means-end approach is desirable, nevertheless, it has its cons mostly time consuming (finding consumers who are eligible and willing to spend until 2 hours answering various questions even personal ones and finding the right context to conduct the interviews), and, money consuming (rewarding consumers for their attendance and efforts) . However, there is an alternative analysis (conjoint analysis) not as thorough as the means-end approach but reliable and valid.

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<sup>1</sup> Kevin Lane Keller, Brian Sternthal, and Alice Tybout, "Three Questions You Need to Ask About Your Brand," *Harvard Business Review*, (September 2002), pp. 5-7.

<sup>2</sup> Jerry C. Olson and Thomas J. Reynolds, "The Means-End Approach to Understanding Consumer Decision Making," in *Understanding Consumer Decision Making, the Means-End Approach to Marketing and Advertising Strategy*, edited by Thomas J. Reynolds and Jerry C. Olson (New Jersey: Lawrence Erlbaum Associates, Inc, 2001), pp. xiii and 15.

### 3.1 Definition of Conjoint Analysis

*“Conjoint analysis attempts to determine the relative importance consumers attach to salient attributes and the utilities they attach to the levels of attributes.”<sup>1</sup>*

Unlike the means-end approach, conjoint analysis focus solely on the attribute level; and, with the assumption derived from the means-end approach. That is, attributes are linked to consequences which in turn are linked to values; product knowledge at the attribute level in addition to the expectancy-value model leads to perceived consequences and perceived values.<sup>2</sup>

### 3.2 Conducting Conjoint Analysis

To cover conjoint analysis from different aspects, the framework in **Figure 2.3** provided by Naresh K. Malhotra and David F. Birks is followed. The fifth step (interpret the results) will be dealt with in a subsequent chapter.

#### 3.2.1 Formulate the Problem

In the first step in conducting conjoint analysis, a researcher needs to identify the salient attributes and attributes levels consumers use in their evaluations. According to what has been discussed earlier, it is not genuine for consumer to use all the attributes in evaluating or choosing products; rather, they use attributes that seem important or salient. There are several means to identify the consumers' relevant attributes. First, direct questioning of consumers about which attributes they consider the most salient in evaluating or choosing products; this mean includes qualitative research (focus group) or pilot surveys. Second indirect questioning, this mean does not involve consumers. It includes motivational research, covariate analysis, management, industry experts and secondary data, and, finally observation and experimentation.<sup>3</sup>

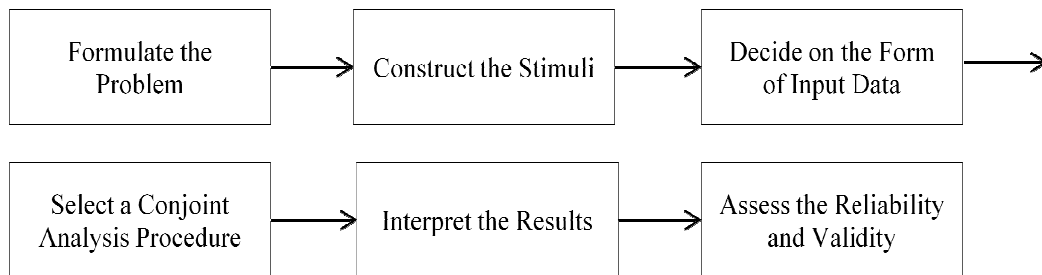
After having identified the attributes, their levels should be identified as well. The more levels are the more estimated parameters will be in the overall equation. Each attribute has at least two levels; for example, the levels of the size attribute of a car are small, medium and large. The levels of its place of origin are United States, Germany, Japan and Italy, for example. The levels of tempo attribute in music recode can be fast or slow. The challenge in this step is to reduce the number of attributes in order to make estimation reliable and respondents' task feasible.

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<sup>1</sup> Naresh K. Malhotra and David F. Birks, *Marketing Research: An Applied Approach*, Third European Edition, (Harlow: Pearson Education Limited, 2007), p. 704.

<sup>2</sup> The expectancy-value model was developed by Martin Fishbein. (1967).

<sup>3</sup> Mark I. Alpert, “Definition of Determinant Attributes: A Comparison of Methods,” *Journal of Marketing Research*, 8, (May 1971), pp. 184-85.

**Figure 2.3:** Framework for Conduction Conjoint Analysis

**Source:** Naresh K. Malhotra and David F. Birks, *Marketing Research: An Applied Approach*, Third European Edition, (Harlow: Pearson Education Limited, 2007), p. 706.

### 3.2.2 Construct the Stimuli

There are two alternative approaches to collect data about consumers' preferences – (1) the two factor-at-a-time procedure and (2) the full-profile approach -.<sup>1</sup>

The two factor-at-a-time procedure, also called trade-off approach or pair-wise approach is an approach that drives respondents to rank their preferences of different combinations of levels of two attributes at-a-time from most preferred to least preferred. The ranking is accomplished by making trade-offs between the levels of those pair of attributes. This approach assumes that examining two attributes at-a-time produces more valuable information than examining them apart.<sup>2</sup>

**Table 2.2:** Top Speed versus Place-of-Origin Preferences

	Place-of-Origin		
Top Speed	U.S	Germany	Japan
200 KPH	7	8	9
250 KPH	3	4	6
300 KPH	1	2	5

**Source:** Personal Efforts

**Table 2.2** illustrates the trade-off approach. In this example, the respondent prefers faster cars over slower cars, and, prefers U.S and German cars over Japanese. The respondent's most preferred car is a car that is manufactured in the U.S and its top speed 300 KPH. As the second preference, this respondent would trade-off speed over place-of-origin; then goes back to U.S.

<sup>1</sup> Paul E. Green and V. Srinivasan, "Conjoint Analysis in Consumer Research: Issues and Outlook," *Journal of Consumer Research*, 5, (2), (September 1978), p. 107.

<sup>2</sup> Richard M. Johnson, "Trade-off Analysis of Consumer Values," *Journal of Marketing Research*, 11 (2), (May 1974), p. 122.

car with less speed and on it goes. However, there are drawbacks in applying the two factor-at-a-time approach:

- The products are described only in two attributes.
- It requires several tables to complete all the ranking, for example, a study of six attributes and each one at three levels, respondents will be filling  $n \times (n-1)/2$  tables which is 15 tables in this example and each table contains 9 cells.

The full-profile approach, in contrast, includes all product attributes in stimulus card and respondents are asked to rank order or give their preference rating from least preferred to most preferred. Continuing with the car example, **Table 2.3** illustrates four simple stimulus cards with three attributes each at three levels.

**Table 2.3:** Full-Profile Cards of Cars

Card ID	Place-of-Origin	Top Speed	Number of Seats
1	Japan	200 KPH	6
2	U.S	300 KPH	2
3	U.S	200 KPH	6
4	Germany	300 KPH	6

**Source:** Personal Efforts

The full-profile approach generates several cards, which results respondents' fatigue. For example, a product class of four salient attributes at three levels each generates a total number of profiles of  $3 \times 3 \times 3 \times 3 = 81$  profiles. To overcome this obstacle, the number of profiles can be reduced through running Fractional Factorial Design (orthogonal array). In fact, a study made to compare the tau correlation between a full factorial design and orthogonal array. The study yielded a tau correlation of 0.776 in the orthogonal array of 18 observations, and, the full factorial design of 243 observations yielded a tau correlation of 0.818.<sup>1</sup>

### 3.2.3 Decide on the Form of Input Data

There are two forms of data - non-metric and metric -. For both approaches, trade-off and full-profile approach, respondents are likely to be asked to *rank* order their preferences from the most preferred to the least preferred (non-metric) or *rate* their preferences on a Likert scale from most preferred to least preferred (metric data). In the metric data the Likert scale varies from seven-point, nine-point or eleven-point scale. In the non-metric data the ranking is according to the number of cells in the trade-off approach, and, according to the number of profiles in the full-profile approach.

<sup>1</sup> Frank J. Carmone, Paul E. Green and Arun K. Jain, "Robustness of Conjoint Analysis: Some Monte Carlo Results," *Journal of Marketing Research*, 15 (2), (May 1978), p. 300-3.

### 3.2.4 Conjoint Analysis Procedure

Estimating the part-worth utilities and the importance of attributes is classified into three categories according to the collected data. First, if the data are collected through non-metric procedures, the measurement scale in this case is ordinal, and, the parameters must be estimated through MANANOVA, PREFMAP, Johnson's non-metric trade-off algorithm and LINMAP. Second, if the data are metric, which leads to an interval measurement scale, the estimation will be run through ordinal least square regression, dummy variable regression or MSAE regression; the dummy variable regression method is the simplest. Finally, if the paired comparison data are related to a choice probability model, LOGIT and PROBIT can estimate the parameters.<sup>1</sup>

A point needs dwelling on; that is, the previous estimation procedures are best suited for conjoint analysis at the individual level. If an aggregation level is desired, respondents must be segmented. There are two segmentation methods - clustering segmentation and componential segmentation -. Respondents in clustering segmentation are grouped into clusters based on the similarities of their part-worth utilities. Componential segmentation, in contrast, estimates the average part-worth utility of all respondents, and, the interaction of respondent's background variables and the attributes levels. If respondents' background variables are not important in the study, clustering segmentation is more appropriate, because componential segmentation may cause the majority fallacy.<sup>2</sup>

### 3.2.5 Assess the Reliability and Validity

Reliability can be tested through three alternative means - test-retest reliability, alternate forms method with spaced testing, or, the value of R square of the estimated model -. The latter method is the simplest. The two former methods require respondents to repeat the task. In the test-retest reliability, a subset of respondents that can be reached, are asked to give their preference judgment on another set of product profiles, in which it contains some of the profiles used in the initial task and then determine the test-retest reliability by comparing the evaluation of the repeated profiles. The alternate forms method with spaced testing is similar to the test-retest reliability, but it requires a whole new set of product profiles, and then calculating the product moment correlations of the two tasks which indicates reliability. Validity, on the other hand, can be calculated through Pearson's rho or Spearman's rho between the actual values of dependent variables (preference judgment) and the estimated values of the dependent variables.<sup>3</sup>

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<sup>1</sup> Paul E. Green and V. Srinivasan, "Conjoint Analysis in Consumer Research: Issues and Outlook," *Journal of Consumer Research*, 5, (2), (September 1978), pp. 112- 3 and Naresh K. Malhotra and David F. Birks, *Marketing Research: An Applied Approach*, Third European Edition, (Harlow: Pearson Education Limited, 2007), p. 710.

<sup>2</sup> William L. Moore, "Levels of Aggregation in Conjoint Analysis: An Empirical Comparison," *Journal of Marketing Research*, 17 (4), (November 1980), pp. 516-23.

<sup>3</sup> Paul E. Green and V. Srinivasan, "Conjoint Analysis in Consumer Research: Issues and Outlook," *Journal of Consumer Research*, 5 (2), (September 1978), pp. 114-5 and Naresh K. Malhotra and David F.



After measuring the importance of each attribute; the importance values are used in the expectancy-value model to assess customer value at the attribute level.

# Conclusion

Company that strives to compete on the value dimension must change its orientation to its markets. However, there are two orientations - market-driven and market driving - . Although these orientations both provide value, they differ in the amount provided. Market driving companies deliver a leap in customer value and enjoy above-average returns.

Knowledge about value differs among consumers. Product knowledge is the result of the affective and cognitive responses consumer unleashes from their interaction with the environment. Knowledge starts by the accretion process that develops separate meanings; these meanings in turn, accumulate by the tuning process to develop high levels abstraction meanings. Product knowledge is linked through the means-end chain; a chain that links product attributes, to the consequences derived from these attributes, to finally the values and goals from using the product.

Customer value includes two components - give components (sacrifices) and get components (benefits) -. Companies have the ability to manipulate these components to deliver the desired value. To deliver the highest possible value, companies should segment the market by the benefit criterion. The benefit segmentation allows a company to communicate its value through a thorough and meaningful value proposition. Customer value can be assessed after measuring the importance customers attach to each product attributes through conjoint analysis.

**CHAPTER THREE**  
**-THE EMPIRICAL RESEARCH-**

# Introduction

The gained knowledge from preceding chapters will be stratified in the current one. Companies need to do their homework in order to compete on the value basis; thus the right value could be delivered to the right customer. Quantitative research was conducted in a form of questionnaire which is the result of an in-depth interview and pilot testing. The survey targeted a specified industry characterized with its tough competition, where applying the concepts of strategic positioning and value will be a substantial advantage to its user.

The followed sampling technique in running the survey was non-probability sampling consisted of a judgmental sample. After interviewing the sample on interest, data were analyzed through various analyses and different statistical tests. In each analysis, reliability and validity were assessed to insure a clear representation of the phenomena under investigation. The findings were discussed and compared to secondary data conducted on the same or related subjects. The proposed hypotheses were then tested to be accepted or rejected based on the findings.

## Section 1: Henkel Corporation

### 1.1 Presentation of Henkel Group

Henkel's incorporation goes back to September, 26<sup>th</sup>, 1876, by Fritz Henkel (3/20/1848 - 3/1/1930). Henkel Corporation operates in both consumer and industrial markets. Henkel organizes its business in three areas – (1) Home Care, (2) Personal Care, and, (3) Adhesives, Sealants and Surface Treatment -. These areas in turn, are divided into four business sectors - Laundry & Home Care, Cosmetics/Toiletries, Consumer & Craftsman Adhesives, and, finally Henkel Technologies (industrial and engineering adhesives, sealants and surface treatments) -. Sectors, in which, it enjoys a wagon of well-known brands such as - Persil, Schwarzkopf and Loctite -; the average age of these brands are more than 70 years. The parent company of Henkel is headquartered in Düsseldorf / Germany. Henkel has around 47.000 employees worldwide. Henkel faces tough competitors in all markets; its main competitors across the world are Procter & Gamble and Unilever. In December 11<sup>th</sup>, 2001 Henkel identified itself through the slogan “*A Brand like a Friend*”. In 2011 the CEO Kasper Rorsted substituted the slogan into the current one “*Excellence is our Passion*”. Henkel Group controls hundreds of affiliated companies in 78 countries. Henkel Group net income reached 1,556 million euros in 2012, an improvement by **30.6%** (1,191 million euros) from 2011.<sup>1</sup>

### 1.2 Presentation of Henkel Algeria

Henkel Group stepped into the Algerian boarder after the agreement of joint venture between Henkel Group and ENAD the national detergent company (enterprise national des detergents et des produits d'entretien). After an evaluation of Procter & Gamble, Henkel, and, Unilever; Henkel was the most appropriate candidate for the join up that took place in May 20<sup>th</sup>, 2000, with a capital of 1.760 billion dinars; **60%** of this capital dedicated to Henkel and **40%** for ENAD, with an agreement to establish heavy in-home investment program. Henkel-ENAD-Algeria (HEA) is a company that has Algerian rights. Now Henkel Group owns 100% shares of HEA and became Henkel Algeria (HA).

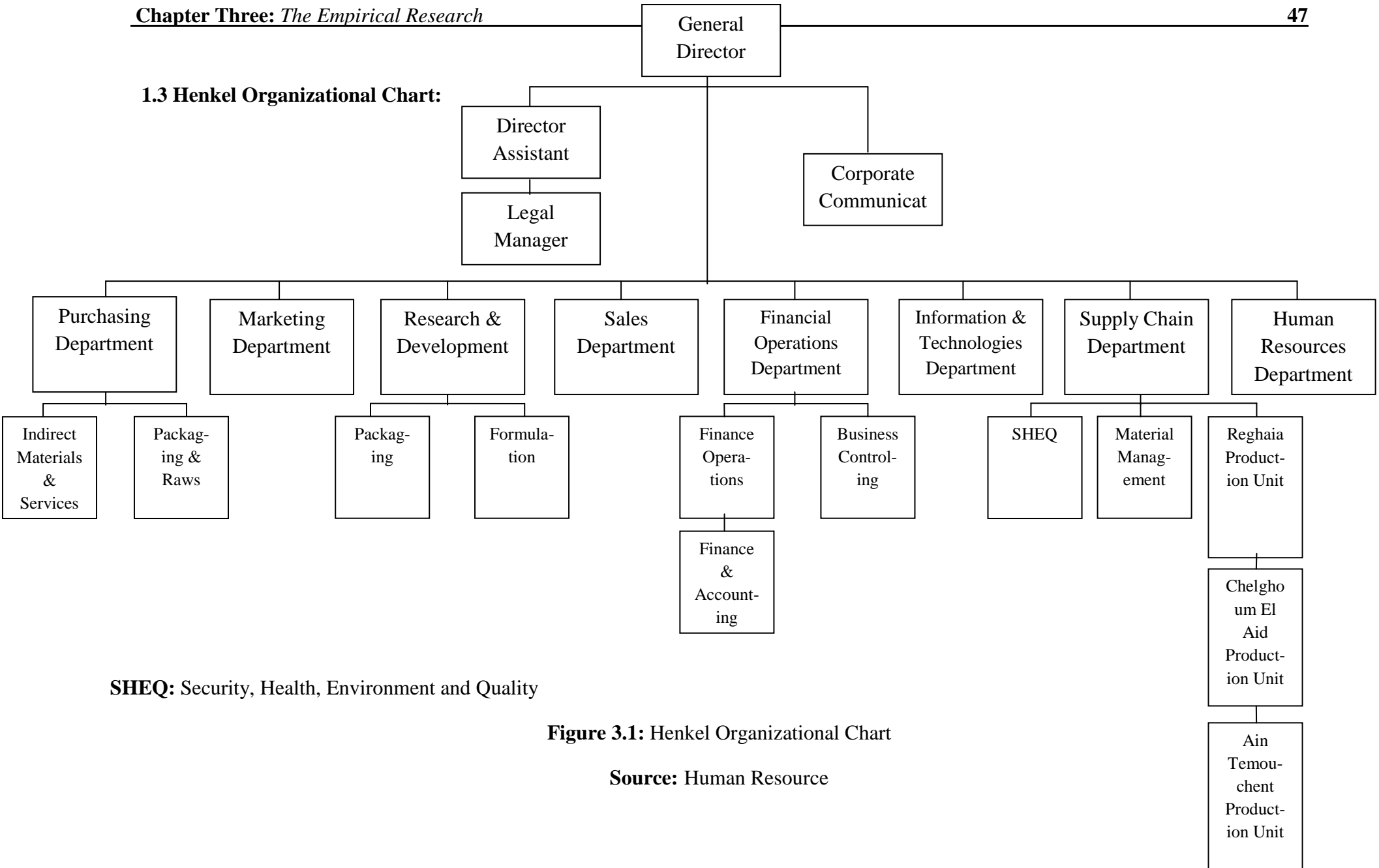
Henkel Algeria is a joint-stock company, headquartered in 22 rue Ahmed OUAKED Bois des Cars III Dely Ibrahim (Algiers). It has three production facilities that are located in Reghaia (Center), Chelghoum El Laid (East) and Ain Temouchent (West). Henkel Algeria employs about 1180 employees throughout the country. Henkel produces around 40.000 tons of powder products and around 35.000 tons of liquid products. Henkel's Algeria net income in 2012 was 21 million euros, a decrease by **27.58%** from 2011 (29 million euros). The proceeding chart diagrams Henkel's Algeria organizational structure<sup>2</sup>.

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<sup>1</sup> www.Henkel.com consulted in February 2013, Time line 130 years of Henkel, The Annual Report 2012 of Henkel, Schedule of Shareholdings 2011 and Schedule of Shareholdings 2012.

<sup>2</sup> The Annual Report 2012 of Henkel and Schedule of Shareholdings 2012.

1.3 Henkel Organizational Chart:



**SHEQ:** Security, Health, Environment and Quality

**Figure 3.1:** Henkel Organizational Chart

**Source:** Human Resource

**Section 2: The Research Methodology**

The empirical research is an attempt to answer the following problematic thoroughly:

*What are the Impacts of Creating Customer Value from Strategic Positioning Stand-Point on a Competitive Environment?*

The problematic is divided into sub-questions that represent its variables; the ones which will be answered in the proceeding sections.

**Sub-questions:**

- What are the effects of the strategic positioning in a competitive environment?
- Will strategic positioning be the premise to deliver greater value to customer?

**Hypotheses:**

- Henkel's products are the most preferred in the dishwashing liquid market.
- Henkel's products are well-differentiated in the dishwashing liquid market.
- Henkel's products deliver the greatest value in the dishwashing liquid market.

In order to answer the questions above, both qualitative and quantitative researches were needed. The following discussion is a description of the two researches.

**2.1 Qualitative Research: In-Depth Interview**

Designing a questionnaire to run a quantitative research requires information, which is not available from secondary data in this case. Therefore, the need for qualitative research is crucial in order to design a questionnaire. The qualitative research was in a form of interview.

Due to the hectic schedule of the marketing research manager and the persistent resistance of this latter to offer an appointment; an incentive of having full access to the results of the final research was given if the marketing research manager cooperates with the researcher, which was not enough. The manger agreed to discuss some focal points if the researcher could collect some information for the manager; and the manger in turn will offer guidance to maintain the course and scope of the research.

The meeting took place in the manager's office which is not a strange context to the respondent. The interview was a one off meeting that took over an hour on January 07<sup>th</sup>, 2013.

The interview was a one-on-one interview with the marketing research manager of Henkel Algeria. The interview was structured and direct; the marketing research manager was probed to uncover the following issues:

- Henkel's competitors in dishwashing liquid market,
- The product attributes.
- The sample frame.

The outputs of this interview were:

- **Henkel's Competitors:** the manager was asked first how many brands there are in the dishwashing soap market, the manager stated 15 brands manufactured in both local and foreign markets. Then, the interviewer asked the manager, which brands are considered as the main competitors to Henkel's product, the manager narrowed the brands into 4 brands, Aigle, Test, Fairy and Tex these brands have more or less the same efficiency as Henkel's product. Fairy and Tex are new in the market according to the manager.
- **The Product Attributes:** the manager addressed 5 attributes as follow: cleaning ability, skin care, fragrance, density and price. Each of the previous attributes' function is clear, except of fragrance; which is, a bit vague in dishwashing products. Consumers want their dishes to be clean and shining, rather than, smell good. The manager replied to the preceding comment as: fragrance is made to make the washing more pleasant and enjoyable.
- **The sample frame:** Henkel's core sample in the dishwashing soap market is women aged between 25 and 55 years old

## **2.2 Quantitative Research**

Based on the information above, a first questionnaire was designed. The questionnaire then was tested using pilot testing as follow:

### **2.2.1 Pilot Testing**

The questionnaire was tested on a sub-sample, through street interviews. However, some unexpected issues arose:

- Respondents claimed different brands, which they consider in their purchase decisions.



- Respondents mentioned more attributes than what was announced by the marketing research manager.
- The questionnaire was pretty fatigue task on respondents, especially older ones, due to the evaluation tasks throughout the questionnaire.
- Respondents' average time to fill the questionnaire was 15 minutes, which was longer than what was estimated.

Adjustments were needed in order to obtain reliable information. The extent of adjustments reached the following points:

- **Number of brands:** besides those mentioned by the manager (Test, Aigle, Fairy and Tex), and, Henkel's product (Pril Isis); respondents mentioned the following brands, Power, Top and El Bahdja, which were added in the final questionnaire.
- **Number of attributes:** in addition to the previous attributes (cleaning ability, skin care, fragrance, density and price), the attribute "sudsing ability" was frequently mentioned by respondents. Therefore it was included to the final questionnaire.
- **The sample:** due to the fatigue task, the time spent on filling the questionnaire, and, the wide use of dishwashing products even little aged girls can do dishes. The sample was a bit extended from 20 to 55 years old, rather than, from 25 to 55 years old. Besides the extension of the sample, respondents had to be educated in order to fill the questionnaire properly and consume less time.
- **The survey mode:** due to flexibility of data collection, diversity of questions, sample control, control of data collection environment, quantity of data, response rate, costs; and no need to probe respondents and no need obtaining sensitive information; street, in-home and in-office interviews were the most appropriate techniques. However, 15 minutes to complete the questionnaire and the fatigue task, were undesired drawbacks. Thereby, street interviewing technique lost its credibility.

### 2.2.2 The Design of the Final Questionnaire

The final questionnaire was designed, after the adjustments were made on the former questionnaire. The questionnaire includes 10 questions; each question seeks a specific purpose. The questions are varied in term of measurement scale, **nominal, ordinal and scale**.

- **Question number 1** seeks to determine the TOP OF MIND brand.

- **Question number 2** aims to measure the approximate market share for each brand.
- **Question number 3** is dedicated to measure the level of differentiation across the eight brands of liquid dishwasher. Respondents in this question are provided with brand images in order to recall some brand specifications. It includes  $n \times (n-1) / 2$  paired comparisons; in this case 8 brands will provide 28 pairs. Respondents may find it hard to evaluate 28 pairs and may try to just finish the evaluation which results biased comparison in a favor for the first brand. That is, the comparison of the first brand with the other brands will be more accurate than the second; and the second will be better than third and so on. To overcome this issue, the brand pairs were ranked differently from one questionnaire to another to decrease respondent bias and error. For example, one starts to compare Pril ISIS with the other brands and the other one starts with Aigle and so forth.<sup>1</sup>
- **Question number 4** is a complementary question to the previous one, after generating a spatial map, it has to be labeled, and question number 4 is made for that issue.
- **Question number 5** aims to determine the most preferred brand by respondents; it is a rank order of the eight brands.
- **Question number 6** is the toughest task in the questionnaire; it represents a preference judgment. Respondents are asked to rate their preferences of twenty product profiles, on nine-point Likert scale from the most preferred to the least preferred.
- **Questions number 7** is a complementary question to question 6. It is a rate task; respondents are asked to rate each brand on its attributes basis from 0 to 10, where 10 represents the highest level. Price will be rated in reverse because customers prefer low prices; therefore the 10 will be assigned to the lowest price.
- **Questions 8 and 9** aim to predict potential new needs and wants which ultimately, will change the physical characteristic of the entire product.
- **Questions number 10** represents the sample age. Hence, respondents can be clustered for further researches.

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<sup>1</sup> The same procedure was applied in all questions that consists any kind of evaluation.

## 2.3 Sampling

### 2.3.1 The Sampling Technique

Since the dishwashing products are used industry-wide (mass-marketing), there was no customer data base. Therefore, the sampling technique was a non-probability sampling technique and consisted of judgmental sampling. Judgmental sampling is a form of convenience sampling. The sample units are selected according to the researcher judgments. Judgmental sampling narrows the scope of the convenience sample.

### 2.3.2 The sample Size

The sample size was measured using the mean approach. To measure the different variables used in this approach, basic information were needed.

**Table 3.1:** Population Structure Based on Ag & Sex (for 10,000)

Age	Male	Female	The Whole
<b>under 5</b>	565	534	1099
<b>[5-9]</b>	435	413	848
<b>[10-14]</b>	422	404	826
<b>[15-19]</b>	484	465	949
<b>[20-24]</b>	522	509	1031
<b>[25-29]</b>	512	504	1016
<b>[30-34]</b>	439	430	869
<b>[35-39]</b>	351	350	701
<b>[40-44]</b>	303	306	609
<b>[45-49]</b>	255	256	511
<b>[50-54]</b>	207	205	412
<b>[55-59]</b>	172	165	337
<b>[60-64]</b>	125	120	245
<b>[65-69]</b>	86	88	174
<b>[70-74]</b>	75	77	152
<b>[75-79]</b>	55	57	112
<b>80 &amp; more</b>	54	55	109
<b>Total</b>	<b>5062</b>	<b>4938</b>	<b>10000</b>

Source: ONS 2011

As illustrated in the table above, there are open-ended classes and open-ended grouped frequency distributions. The “under 5” class is an open-ended class because it has an upper class limit (4), however it does not have a lower class limit. Likewise, the class “80 and more” is an open-ended class because it contains a lower class limit of 80 but no upper class limit. The

following table solves this issue. The open-ended classes were removed from the antecedent table due to the disability of determining the numerical values of the open-ended classes.

**Table 3.2:** Measures of the Population

Age	Class Limits	Class Boundaries	Class Width	Female
[5-9]	[5-9]	[4.5-9.5]	7	413
[10-14]	[10-14]	[9.5-14.5]	12	404
[15-19]	[15-19]	[14.5-19.5]	17	465
[20-24]	[20-24]	[19.5-24.5]	22	509
[25-29]	[25-29]	[24.5-29.5]	27	504
[30-34]	[30-34]	[29.5-34.5]	32	430
[35-39]	[35-39]	[34.5-39.5]	37	350
[40-44]	[40-44]	[39.5-44.5]	42	306
[45-49]	[45-49]	[44.5-49.5]	47	256
[50-54]	[50-54]	[49.5-54.5]	52	205
[55-59]	[55-59]	[54.5-59.5]	57	165
[60-64]	[60-64]	[59.5-64.5]	62	120
[65-69]	[65-69]	[64.5-69.5]	67	88
[70-74]	[70-74]	[69.5-74.5]	72	77
[75-79]	[75-79]	[74.5-79.5]	77	57
<b>Total</b>				<b>4349</b>
<b>Mean (<math>\mu</math>)</b>				<b>31.1285353</b>
<b>Var (<math>\sigma^2</math>)</b>				<b>303.758829</b>
<b>Std Div (<math>\sigma</math>)</b>				<b>17.4286784</b>

**Source:** Personal Efforts

The open-ended classes will be considered as missing values. The variables values in the yellow cases represent the population variables values (10,000 units). However, **Table 3.3** below represents the same variables but for the sample. As stated above, the chosen sample is women aged between 20 and 55 years old. The sample size ( $n$ ) is measure through the formula<sup>1</sup>:

$$- Z = \frac{\bar{X} - \mu}{\sigma_{\bar{X}}}$$

$$- Z = \frac{D}{\sigma_{\bar{X}}}, \text{ and, } \sigma_{\bar{X}} = \frac{\sigma}{\sqrt{n}}$$

<sup>1</sup> Naresh K. Malhotra and David F. Birks, *Marketing Research: An Applied Approach*, Third European Edition, (Harlow: Pearson Education Limited, 2007), p. 438.

$$- \frac{\sigma}{\sqrt{n}} = \frac{D}{Z} \xrightarrow{\text{yields}} n = \frac{\sigma^2 * Z^2}{D^2}$$

**Where:**

$\bar{X}$  = The sample mean of grouped frequency distribution.

$\mu$  = The population mean of grouped frequency distribution.

$\sigma_{\bar{X}}$  = The standard error of the mean.

$D$  = The difference between the sample mean ( $\bar{X}$ ) and the population mean ( $\mu$ ).

$\sigma$  = The standard deviation of the population.

$Z$  = The value associated with the confidence level of 95%. ( $Z_{(1-\frac{\alpha}{2})} = 1.96$ ).

**Table 3.3:** Measures of the Sample

Age	Class Limits	Class Boundaries	Class Width	Female
[20-24]	[20-24]	[19.5-24.5]	22	509
[25-29]	[25-29]	[24.5-29.5]	27	504
[30-34]	[30-34]	[29.5-34.5]	32	430
[35-39]	[35-39]	[34.5-39.5]	37	350
[40-44]	[40-44]	[39.5-44.5]	42	306
[45-49]	[45-49]	[44.5-49.5]	47	256
[50-54]	[50-54]	[49.5-54.5]	52	205
<b>Total</b>				<b>2560</b>
<b>Mean (<math>\bar{X}</math>)</b>				<b>34.0078125</b>
<b>Var (<math>S^2</math>)</b>				<b>90.7111543</b>
<b>Std Div (<math>S</math>)</b>				<b>9.52424035</b>
<b>D</b>				<b>2.8792772</b>
<b><math>\alpha</math></b>				<b>0.05</b>
<b>Z value</b>				<b>1.96</b>
<b><math>n</math></b>				<b>140.75833</b>

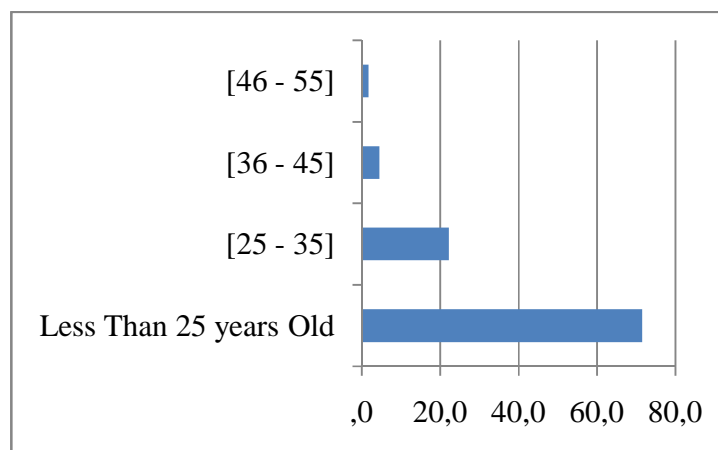
**Source:** Personal Efforts

Therefore, the sample size ( $n$ ) that was measured through the mean approach is 141. However, for this research to be representative, the size of ( $n$ ) will be considered as the minimum to conduct any of the proceeding analyses. Since, a larger sample is always desirable when

choosing a convenience sampling, the sample size in this research will be larger than what was measured.

After distributing 500 copies of the questionnaire starting from the mid January to the beginning of May in Algiers; targeting students older than 20 years old, office employees and educated house-wives younger than 55 years old. 400 copies were retrieved which is a good response rate of **80%**. **Figure 3.2**, below illustrates the recruited females in the survey:

**Figure 3.2:** The Sample Age



**Source:** Microsoft Office Excel 2007

The question that denoted respondent's age in the questionnaire is number 10; question 10 was treated as a scale measurement. Most women included in the sample are younger than 25 and old than 20 years old, with the proportion of **71.5%** followed by **22.25%** of women aged between 25 and 35 years old, then **4.5%** represents women between 36 and 45 years old. Finally the small proportion of **1.75%** represents women between 46 and 55 years old. Since this is a young sample, which represents potential opportunity to Henkel Algeria. Henkel could start targeting this sample to win their mind and heart share.

#### **2.4 The Used Analyses**

In addition to descriptive statistics and ordinary least squares (OLS) regression; several analyses were used in this research in order to accept or reject the proposed hypotheses. The analyses that were used are: multidimensional analysis, conjoint analysis and clustering analysis. Two methods of multidimensional analysis were used ALSCAL scaling and PREFSCAL scaling. Clustering analysis followed hierarchical cluster analysis, using Ward's method; a method based on variances. Finally, conjoint analysis was conducted from metric data collection viewpoint, and, the reliability and validity were measured as well. These analyses were conducted through the Statistical Package for Social Sciences (SPSS) version 19.

### Section 3: Data Analysis

This section presents the results of the field research, which in turn will be analyzed and discussed according to the sub-questions and the hypotheses this research has been based on. To begin with, each question of the questionnaire will be addressed separately and each question will be defined in terms of measurement scale as follows:

#### 3.1 Presenting and Discussing the Findings

##### Question 1: What are the different liquid dishwashing brands do you know?

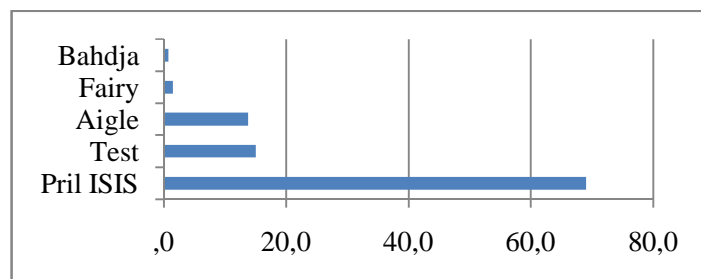
**Define the Measurement Scale:** Respondents are asked to mention the brand of liquid dishwashing brand they know. The nature of the human memory, retrieved objects (in this case brands) are ordered according to respondent's own criteria. Therefore, this question is ordinal scale. **Table 3.4** and **Figure 3.3** highlight the top of mid brand.

**Table 3.4:** Top of Mind

	Frequency	Percent
Pril ISIS	276	69.0
Test	60	15.0
Aigle	55	13.8
Fairy	6	1.5
Bahdja	3	.8
Total	400	100.0

Source: SPSS Version 19

**Figure 3.3:** Top of Mind



Source: Microsoft Office Excel 2007

Not surprisingly, Pril ISIS is by far the most first retrieved brand by **69.0%**; followed by not the same magnitude Test, Aigle, Fairy, and Bahdja by the proportion of **15%**, **13.8%**, **1.5%**, and **.8%** respectively.

##### Question 2: Which brand do you use the most?

**Define the Measurement Scale:** This question in a part is similar to the first question. Respondents here are asked to mentally rank the brands according to the usage and determine which one is the most used; ranking is an ordinal scaling measurement.

The marketing research manager's statement about the most competing brands is confirmed. The market leader is Pril ISIS with a market share of **73.3%**; trailed by the challengers Test and Aigle by **15.3%** and **9.8%** respectively. Fairy, Bahdja and Top are considered as followers by a small fraction of market share **.8%**, **.3%** and **.8%** respectively. According to the marketing

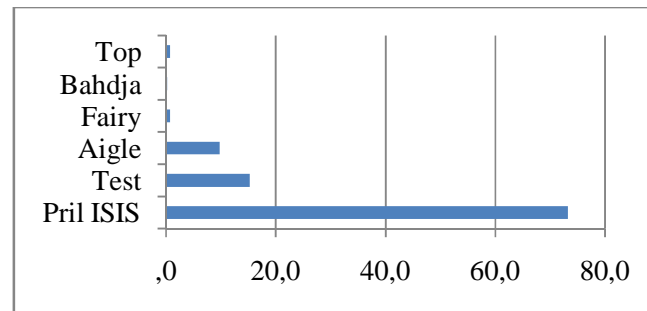
research manager, the market share to each brands are approximately as the same as Henkel's latest research on the same subject.

**Table 3.5:** Most Used Brand

	Frequency	Percent
Pril ISIS	293	73.3
Test	61	15.3
Aigle	39	9.8
Fairy	3	.8
Bahdja	1	.3
Top	3	.8
Total	400	100

Source: SPSS Version 19

**Figure 3.4:** Most Used Brand



Source: Microsoft Office Excel 2007

**Question 3: According to your experience, beliefs or ideas; judge if these brands are similar or dissimilar [1 very similar, 7 very dissimilar]**

**Define the Measurement Scale:** This question contains brand pairs to be compared according to their similarity and dissimilarity on seven-point Likert scale (metric data). This question is a scale measurement, but since the point 4 is treated as the arbitrary point (0) of differences between each brand pair makes this scale an interval measurement. The SPSS combines interval and ratio scales into scale measurement. However, this question is analyzed through multidimensional scaling; which gives the ability to command the analysis of the question through an interval scale measurement. The purpose of this question is to produce a special map of the eight brands and examine the degree of differentiation between them.

Data were collected through the direct approach (perception data) and respondents provided similarity judgments of the eight brands (28 pairs). The spatial map will contain two dimensions that will be labeled later on. **Figure 3.5** projects the spatial map of the eight brands, and **Table 3.6**, illustrates the coordinates of each brand on the map.

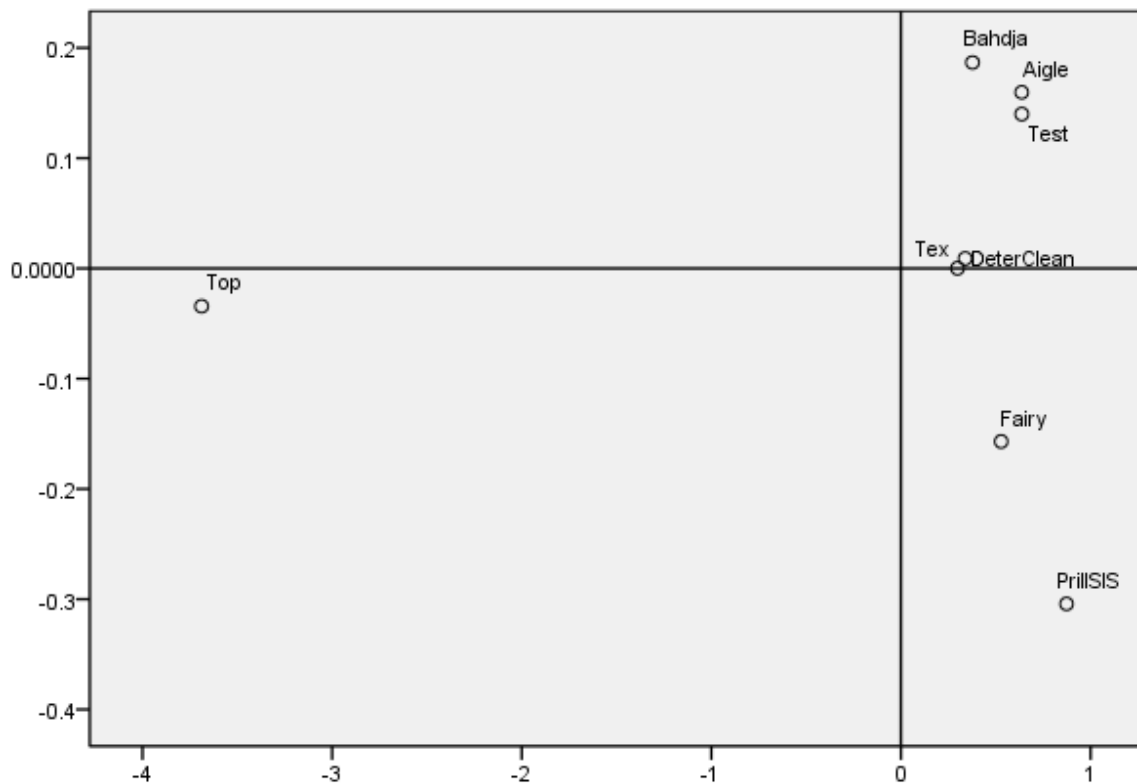
The noteworthy points of the spatial map are the empty space and the vicinity of brands. There is a lot of space because brands are not well-differentiated and they are competing on the same characteristics. The coordinates of Tex (.298; .000) and Deter Clean (.338; .009) are barely the same on both dimension does not reflect to the fact, that these brands are similar. Rather, they have not been tried by respondents; they are located closely because respondents stated the status "Neutral" by assigning the point 4 to both brands.



**Table 3.6:** Stimulus Coordinates of Figure 5

Stimulus Number	Stimulus Name	Dimension	
		1	2
1	Pril ISIS	.873	-.304
2	Test	.637	.140
3	Aigle	.637	.160
4	Fairy	.528	-.157
5	Tex	.298	.000
6	Deter Clean	.338	.009
7	Bahdja	.377	.187
8	Top	-3.688	-.034

Source: SPSS Version 19

**Figure 3.5:** Thorough Spatial Map

Source: SPSS Version 19

Running reliability measures for multidimensional scaling (MDS) showed below; indicates good fit of data. Stress which is a measure of badness-of-fit is relatively small (**3.678%**) and the measure of goodness-of-fit (R square) is **99.783%**. Despite the fact that data are fitted; question 2 revealed earlier that respondents do not use Fairy, Tex, Deter Clean (Power), Bahdja and Top

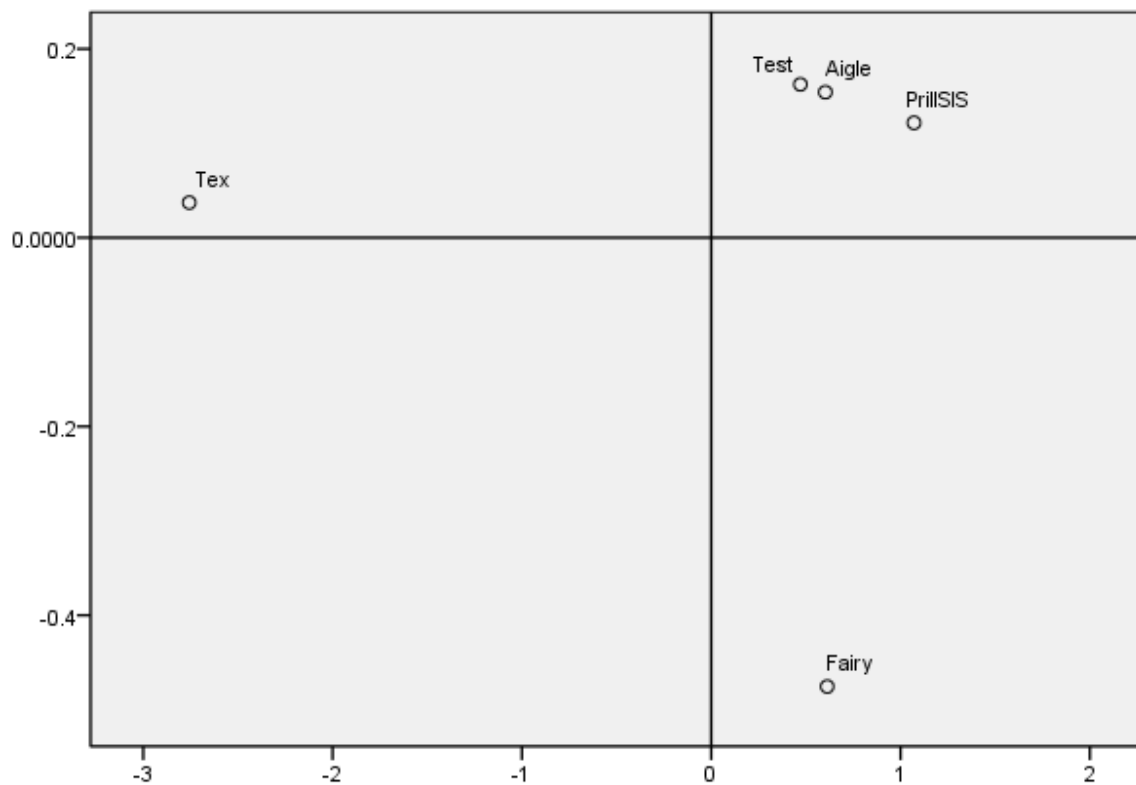
most often. Therefore the latter three brands will be removed from the analysis. **Figure 3.6** represents the spatial map after removing those three brands. Fairy and Tex could be dropped from the analysis. However, Fairy and Tex are the potential competitors of Henkel's product; thus, they will remain for further analyses.

**Table 3.7:** Reliability Measures of the Thorough Spatial Map

<b>Stress</b>	.037
<b>R Square</b>	.998

Source: SPSS Version 19

**Figure 3.6:** Adjusted Spatial Map



Source: SPSS Version 19

The reliability measures of the adjusted spatial map showed in **Table 3.8** are better than the thorough one. Badness-of-fit (stress) is inferior to the former one (**2.643%**) and goodness-of-fit R square is better (**99.833%**).

**Table 3.8:** Reliability Measures of the Adjusted Spatial Map

<b>Stress</b>	.026
<b>R Square</b>	.998

Source: SPSS Version 19

The brands Pril ISIS, Test and Aigle are located in the same block and they are close to each others. Once again the statement about these brands being highly competitive to each other is confirmed. In contrast, Fairy and Tex are scattered throughout the map.

Note that Tex replaced Top on the spatial map. Usually, a brand located away from others, is considered as different. Since, both Tex and Top have not been tried yet or used most often; the antecedent assumption about being different is not appropriate. Therefore the remaining analyses will contain only Pril ISIS, Test, Aigle and Fairy.

Explaining the spatial map is still insufficient, due to the unlabeled dimensions. Question 4 is aimed to this purpose.

**Question 4: Which criterion or criteria have you used the most, in evaluating the previous brands?**

**Define the Measurement Scale:** Respondents in this question are not performing evaluation of any kind. This question is a nominal scale measurement, because respondents are declaring which attribute from the six they have used in the evaluation task. The results of using each attribute are listed **Table 3.9 and Figure 3.7**.

As was expected, cleaning ability was the most used attribute in the evaluation task by **79.5%**. Remarkably, sudsing ability the one that was not mentioned as salient attribute by the marketing research manager it was used quite a lot in the evaluation by **52.8%**. Fragrance, which is important in making dishwashing more pleasant, is ranked third by **46.5%**. Skin care was ranked fourth by **43.8%**; this attribute was classified as salient especially by house-wives and working class. For house wives due to the frequency of doing dishes which is, twice or three times per day and for working class due to sociable reasons. Density was used by **42.3%**. Respondents wanted a frugal product that lasts. Finally, which is a bit surprising, price that was used by **34.5%**; respondents are willing to pay if the product contains attributes perceived salient to them. Other attributes used in the evaluation were by **3.8%** mostly the shape of the bottle and the color of the product.

**Table 3.9:** Attributes Used in Evaluation

	Cleaning Ability		Sudsing Ability		Skin Care		Fragrance	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
<b>Not Used in Evaluation</b>	82	20.5	189	47.3	225	56.3	214	53.5
<b>Used in Evaluation</b>	318	79.5	211	52.8	175	43.8	186	46.5
<b>Total</b>	400	100.0	400	100.0	400	100.0	400	100.0

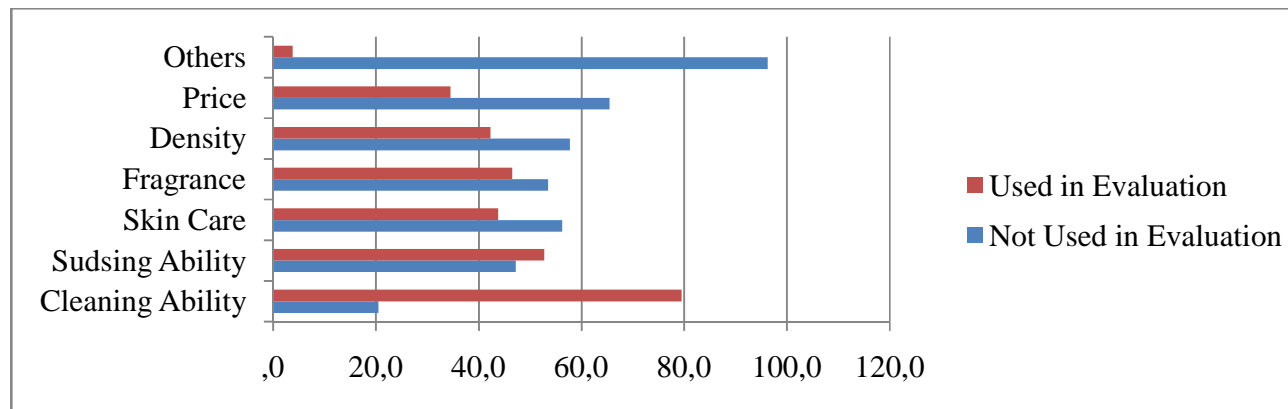
Source: SPSS Version 19

**Table 3.9:** Continued

	Density		Price		Others	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
<b>Not Used in Evaluation</b>	231	57.8	262	65.5	385	96.3
<b>Used in Evaluation</b>	169	42.3	138	34.5	15	3.8
<b>Total</b>	400	100.0	400	100.0	400	100.0

Source: SPSS Version 19

**Figure 3.7:** Attributes Used in Evaluation



Source: Microsoft Office Excel 2007

In addition of eliciting the salient attributes, respondents have used in constructing similarity judgments of the 28 brand pairs. Extra information was provided by the marketing research manager.

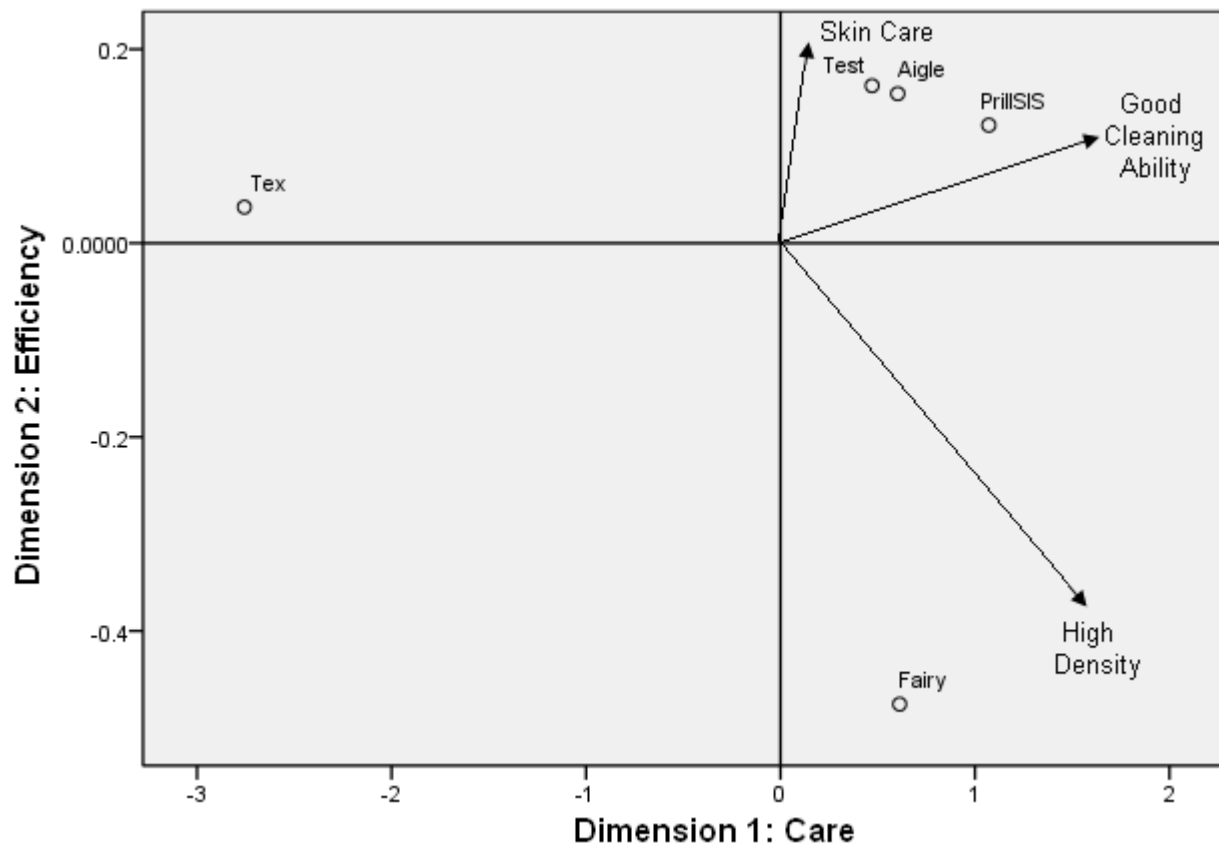
After introducing Fairy into the Algerian market in February 2013; Henkel Algeria conducted two benchmarking tests of Pril ISIS against Fairy. The first test occurred in Henkel's laboratory in Algeria and the second test was run in an independent laboratory in Germany. The second test is a reliability test of the first test (test-retest reliability). The two tests harmonized on the following points:

- The viscosity of Fairy is 3000cP (centipoise) superior to Pril ISIS's 2700cP; therefore Fairy has more density than Pril ISIS.
- Cleaning ability of Pril ISIS was better than Fairy's.

Besides the above findings; the prices of the four brands of interests are ranked in the following order from the most expensive to the least expensive: Fairy, Pril ISIS, Aigle and Test. Test and Aigle claim in their advertising that their products are skin care products, that is, products that protect hands from dryness.

Combining the information of question 4, the findings from laboratories tests and market information all together, produce the labeled spatial map in **Figure 3.8**:

**Figure 3.8:** Labeled Spatial Map



Source: SPSS Version 19

From the spatial map above and the coordinates of the brands showed in **Table 3.10** below; the explanation is as follow. The vertical axis is labeled “Efficiency”, representing all attributes except price and skin care. The brand that has the strongest efficiency is Pril ISIS (1.071) followed by Fairy (.613), Aigle (.603) and Test (.471). Even if Fairy is not as efficient as Pril ISIS; it is located as a densest product.

**Table 3.10:** Stimulus Coordinates of Figure 6

Stimulus Number	Stimulus Name	Dimension	
		1	2
1	PrilISIS	1.071	.122
2	Test	.471	.162
3	Aigle	.603	.154
4	Fairy	.613	-.476
5	Tex	-2.757	.037

**Source:** SPSS Version 19

The horizontal axis is labeled as “Care”, representing skin care and price. The brand that provides the most care to customers is Test (.162) and Aigle (.154) which are the cheapest in the market and advertise their products as skin care followed by Pril ISIS (.122) and Fairy (-.476).

Note that the upper left and the lower left blocks are empty. Emptiness or space in the spatial map represents potential opportunities for launching new products. New products that might be introduced for heavy users contain strong ability to clean grease, take care of hands and less expensive, or, powerful cleaning ability including enjoyable scent to make the washing experience more enjoyable for non-heavy users, or products devoted to grease cleaning and others to glassware cleaning and so forth.

**Question 5: Rank the brands from most preferred (1) to the least preferred (8).**

**Define the Measurement Scale:** respondents were provided with the eight brands to rank them. By assigning 1 to most preferred, 2 to second proffered and so on; ranking is an ordinal tasks. Hence, question 5 is an ordinal scaling measurement. However the ranking have not exceeded the fourth brand because respondents did not know all the brands. Therefore, as was dealt with in the antecedent questions; only Pril ISIS, Test, Aigle and Fairy will be included in the analysis.

Pril ISIS is by far the most preferred brand by **57.9%** this may be due to the special image Algerians hold to Pril ISIS and the Algerians interaction with the brand for so many years. Fairy and Test are relatively in the same rank by **14.7%** and **14.4%** respectively, and finally Aigle by **9.6%**.

Preference scaling (PREFSCAL) was conducted, to compare the four brands with respondents’ ideal products and conclude which one of the four brands is the closest one to the ideal products. Respondents, however, vary in their preferences. The variation of

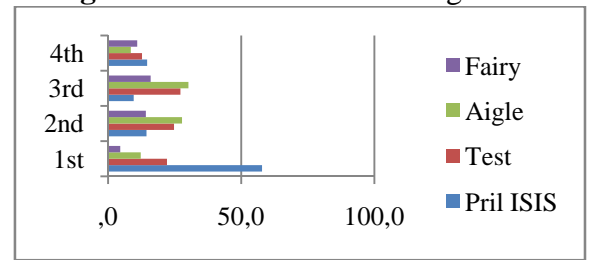
preference leads to various ideal products, one for each respondent. **Figure 3.10** demonstrates respondents' ideal products and the four brands:

**Table 3.11: Preference Ranking**

	Pril ISIS	Test	Aigle	Fairy
The Rank	Percent	Percent	Percent	Percent
1st	57.9	14.4	9.6	14.7
2nd	22.1	24.8	27.2	12.8
3rd	12.3	27.7	30.1	8.5
4th	4.5	14.1	16.0	10.9

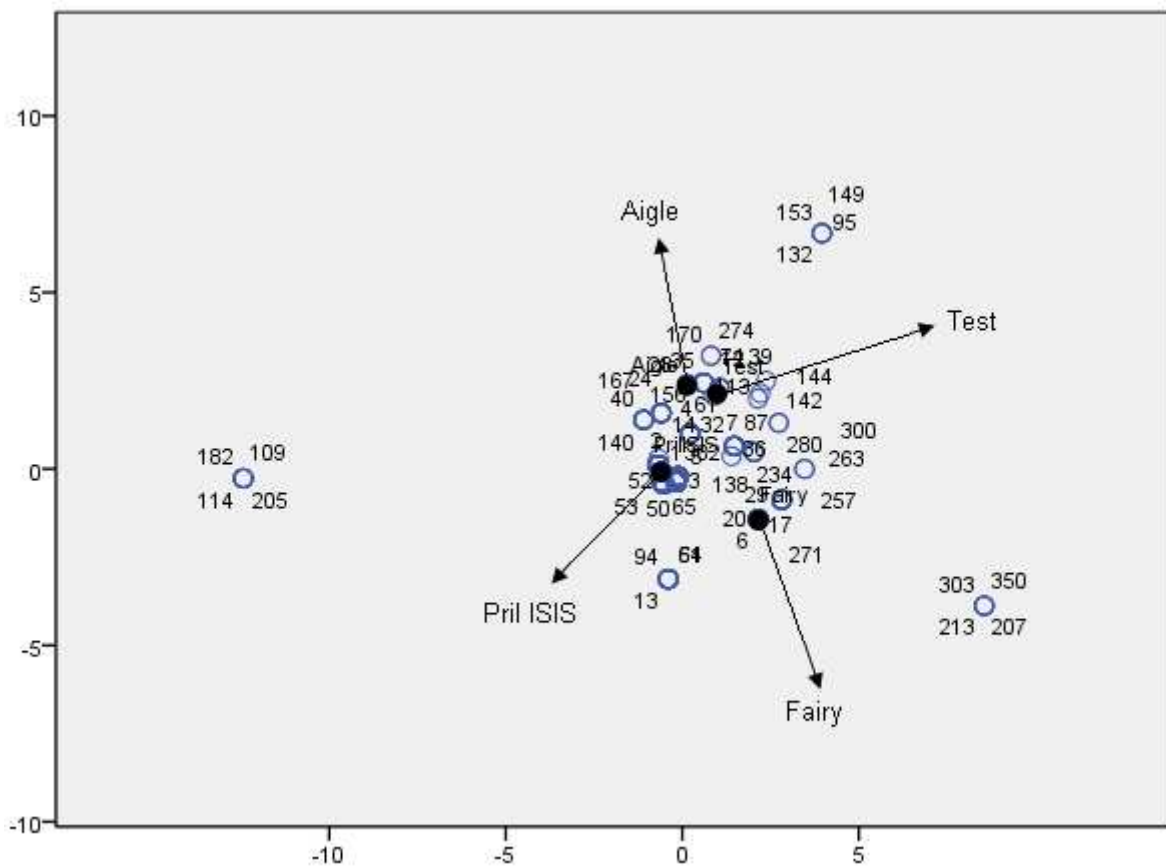
Source: SPSS Version 19

**Figure 3.9: Preference Ranking**



Source: Microsoft Office Excel 2007

**Figure 3.10: Brands Location among Respondents' Ideal Products**



Source: SPSS Version 19

From **Table 3.12**, the average of badness-of-fit measures of preference scaling is acceptable by **5.68%** and the average of goodness-of-fit measures is desirable by **92.08%**.

**Table 3.12: Measures of Fit**

<b>Badness of Fit</b>	Normalized Stress	,0000972
	Kruskal's Stress-I	,0098579
	Kruskal's Stress-II	,1032503
	Young's S-Stress-I	,0195178
	Young's S-Stress-II	,1512459
<b>Goodness of Fit</b>	Dispersion Accounted For	,9999028
	Variance Accounted For	,9868808
	Recovered Preference Orders	,8044444
	Spearman's Rho	,9241548
	Kendall's Tau-b	,8888627

**Source:** SPSS Version 19

The dark black points are the four brands that were used in the analysis; whereas the empty blue points are respondents' ideal products. Pril ISIS and Test are heavily surrounded by ideal products, Fairy and Aigle are scattered away from the gathering of ideal products. With the right positioning strategy Pril ISIS might be considered as the ideal product.

**Question 6: Give your preference rating to the following hypothetical products [1 = not preferred at all, 9 = greatly preferred].**

Not Preferred at All 

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

 Greatly Preferred

**Define the Measurement Scale:** Respondents in this question are asked to give their preference ratings on nine-point Likert scale; the point 5 is the arbitrary point (0) of the scale. Therefore, this question follows the interval scale measurement; SPSS reads interval scale as scale measurement. This question is analyzed through conjoint analysis.

Stimuli were constructed through the full-profile approach. There were  $2 \times 2 \times 2 \times 2 \times 2 \times 3 = 96$  possible profiles (six attributes, each at two levels except price at three levels). The number of profiles was reduced by orthogonal arrays into 20 profiles. As was mentioned above, data were metric provided by nine-point Likert scale. The followed procedure used to estimate the parameters was ordinary least squares (OLS) regression with dummy variables as dependent variables. Reliability and validity were assessed for each regression as shown in **appendix 2**. Reliability was assessed by the measure of R square and validity was measured by Pearson's rho and Spearman's rho.

The independent variables are the preference ratings provided by respondents and the dependent variables are the seven dummy variables presented below. The twenty product-profiles are coded into the dummy variables illustrated in **Table 3.13**:

- X1 dummy variable represents the Cleaning Ability attribute.
- X2 dummy variable represents the Sudsing Ability attribute.
- X3 dummy variable represents the Skin Care attribute.



- X4 dummy variable represents the Fragrance attribute.
- X5 dummy variable represents the Density attribute.
- X6 and X7 dummy variables represent the Price attribute.

The data in this research are at the aggregate level (400 respondents); and in order to avoid the majority fallacy problem, clustering segmentation was conducted based on the part-worth utilities “estimated  $\beta$ ” to produced benefit segments. 46 respondents were removed from cluster analysis due the insignificant validity of the ordinary least square regression at both levels (.01 and .05). The 46 respondents that were removed from cluster analysis are colored in red in **appendix 2**.

**Table 3.13:** Dishwashing Soap Data Coded for Dummy Variable Regression

	Cleaning Ability	Sudsing Ability	Skin Care	Fragrance	Density	Price	
	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	X <sub>6</sub>	X <sub>7</sub>
1	1	1	1	0	0	0	0
2	1	1	0	1	1	0	0
3	1	1	0	1	0	0	0
4	1	1	0	0	1	1	0
5	1	1	1	0	1	0	0
6	1	1	1	0	1	0	1
7	0	1	0	1	1	0	1
8	1	0	1	1	1	0	1
9	1	1	1	0	0	0	1
10	0	1	1	1	1	0	1
11	1	0	0	1	0	0	1
12	1	0	1	1	1	0	0
13	0	0	0	0	1	1	0
14	1	1	1	1	1	1	0
15	0	1	1	1	0	1	0
16	1	0	1	1	1	1	0
17	0	1	1	0	0	1	0
18	1	1	0	1	1	1	0
19	1	0	0	0	1	0	1
20	0	1	0	1	0	0	1

Source: Personal Efforts

### 3.1.1 Conducting Cluster Analysis

The variables to conduct cluster analysis on are the part-worth utilities (estimated  $\beta$ ) of the six attributes measured through ordinary least squares (OLS) regression described earlier. The sample size is appropriate to continue the clustering (400-46=354). The distance measure that will be used in the analysis is the *Square Euclidean Distance*. The variables are all estimated  $\beta$ s from OLS regression; therefore, there is no need to standardize the variables. The

clustering procedure will be the hierarchical agglomerative clustering based on the variance methods; Ward’s method. The variance method of Ward was chosen because it focuses on reducing the within-cluster variance. The results of clustering are presented below. To count the appropriate number of clusters produced, **Table 3.14** which is a snap shot of the thorough agglomeration table and the dendrogram are in great use for the purpose.

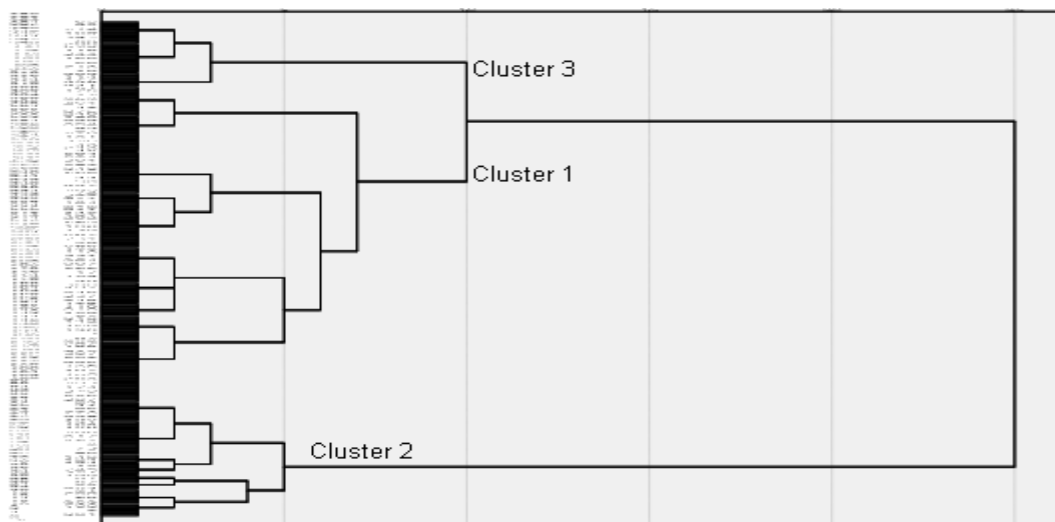
**Table 3.14:** The Last Five Case of Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
349	4	7	1981.461	346	347	353
350	1	3	2116.671	344	348	351
351	1	2	2282.040	350	337	352
352	1	10	2535.826	351	345	353
353	1	4	3178.985	352	349	0

Source: SPSS Version 19

The change of the coefficients in agglomeration table is not significant. However, the two last vertical lines that represent the last two clusters in the dendrogram are combined after large distance. Besides, the relative sizes of clusters in two-cluster solution are 272 (76.8%) and 82 (23.2%); in three-cluster solution 225 (63.56%), 82 (23.16%) and 47 (13.28%); and in four-cluster solution 179 (50.6%), 46 (13.0%), 82 (23.2%) and 47 (13.3%). From one-way ANOVA table, the differences between the three clusters (in three-cluster solution) are highly significant at all variables. Though, in two-cluster solution and four cluster solution differences are not significant at all variables. Therefore, based on the dendrogram, relative sizes of clusters and the differences between clusters; a three-cluster solution was the most appropriate to proceed further analysis. **Appendix 4** illustrates which respondent to which cluster. To determine where the differences lie; the Tukey post-hoc test was needed, see **appendix 3**.

**Figure 3.11:** Dendrogram Using Ward Linkage



Source: SPSS Version 19

Table 3.15: One-Way ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
$\beta_1$	Between Groups	32.110	2	16.055	18.508	.000
	Within Groups	304.483	351	.867		
	Total	336.593	353			
$\beta_2$	Between Groups	19.038	2	9.519	9.622	.000
	Within Groups	347.236	351	.989		
	Total	366.275	353			
$\beta_3$	Between Groups	194.750	2	97.375	71.962	.000
	Within Groups	474.955	351	1.353		
	Total	669.705	353			
$\beta_4$	Between Groups	12.066	2	6.033	7.833	.000
	Within Groups	270.331	351	.770		
	Total	282.397	353			
$\beta_5$	Between Groups	8.050	2	4.025	4.281	.015
	Within Groups	330.011	351	.940		
	Total	338.061	353			
$\beta_6$	Between Groups	300.349	2	150.174	201.648	.000
	Within Groups	261.403	351	.745		
	Total	561.751	353			
$\beta_7$	Between Groups	330.582	2	165.291	197.592	.000
	Within Groups	293.621	351	.837		
	Total	624.203	353			

Source: SPSS Version 19

From Tukey post-hoc test, the differences among clusters are:

- The variables  $\beta_3$ ,  $\beta_6$  and  $\beta_7$  significantly differentiate all the three clusters.
- Variable  $\beta_1$  differentiates cluster 1 from 3 and 2 from 3; cluster 1 and 2 are similar on this variable.
- Variable  $\beta_2$  differentiates cluster 1 from 2 and 1 from 3; similarities are found between cluster 2 and 3 in this variable.
- The variable  $\beta_4$  differentiates cluster 1 from 3 and 2 from 3 and there are similarities between cluster 1 and 2.
- Finally, the variable  $\beta_5$  differentiates only cluster 1 from 2. Clusters 1 and 3, 2 and 3 have similarities in this variable.

### 3.1.2 Measuring the Relative Importance of Attributes

After preventing the majority fallacy obstacle, through benefit clustering; each cluster or segment will be assessed separately in respect to attribute importance attachment. For the attributes at two levels (good, bad) - cleaning ability, sudsing ability, skin care, fragrance, and density -; the importance of each level of each attribute is measured through the steps below. To illustrate, the attribute cleaning ability of respondent **PREF 1** is taken as an example. The

coefficient of the dummy variable produced by OLS regression is the difference between the part-worth of the upper level and the part-worth of the base level of that variable<sup>1</sup>. Therefore:

$$a_{11} - a_{12} = \beta_1$$

- The data were collected through nine-point Likert scale, on which arbitrary point exists; therefore the sum of the scale is 0.

$$a_{11} + a_{12} = 0$$

- Replacing  $\beta_1$  with its value, the equation become:

$$a_{11} - a_{12} = 1,003$$

$$a_{11} + a_{12} = 0$$

- Solving these simple equations leads to the results:

$$a_{11} = .502$$

$$a_{12} = -.502$$

- The same process was repeated for the attributes at two levels. The price is three level attribute (100DA, 150 DA, 200 DA); the following equations were used to assess its importance:

$$a_{61} - a_{63} = \beta_6$$

$$a_{62} - a_{63} = \beta_7$$

$$a_{61} + a_{62} + a_{63} = 0$$

- For the same respondent **PREF 1**, the equations become:

$$a_{61} - a_{63} = 1,275$$

$$a_{62} - a_{63} = 1,154$$

$$a_{61} + a_{62} + a_{63} = 0$$

- Solving the equations above produces the following results:

$$a_{61} = .465$$

$$a_{62} = .344$$

$$a_{63} = -.810$$

---

<sup>1</sup> Naresh K. Malhotra and David F. Birks, *Marketing Research: An Applied Approach*, Third European Edition, (Harlow: Pearson Education Limited, 2007), p. 712.

In order to calculate the relative importance that respondent **PREF 1** assigns to each attribute; the sum of ranges of each attribute range is needed.

The sum of ranges of  $\beta_1$  for PREF 1

$$= (a_{11} - a_{12}) + (a_{21} - a_{22}) + (a_{31} - a_{32}) + (a_{41} - a_{42}) + (a_{51} - a_{52}) + (a_{61} - a_{63}) = \mathbf{5.909}$$

Therefore, the relative importance respondent **PREF 1** assigns to each attribute are:

$$\text{Relative importance of cleaning ability} = \frac{\text{range of cleaning ability levels}}{\text{sum of ranges}} = \frac{1.003}{5.909} = \mathbf{17\%}$$

$$\text{Relative importance of sudsing ability} = \frac{\text{range of sudsing ability levels}}{\text{sum of ranges}} = \frac{.038}{5.909} = \mathbf{.64\%}$$

$$\text{Relative importance of skin care} = \frac{\text{range of skin care levels}}{\text{sum of ranges}} = \frac{3.291}{5.909} = \mathbf{55.69\%}$$

$$\text{Relative importance of fragrance} = \frac{\text{range of fragrance levels}}{\text{sum of ranges}} = \frac{1.077}{5.909} = \mathbf{18.22\%}$$

$$\text{Relative importance of density} = \frac{\text{range of density levels}}{\text{sum of ranges}} = \frac{-.775}{5.909} = \mathbf{-13.11\%}$$

$$\text{Relative importance of price} = \frac{\text{range of price levels}}{\text{sum of ranges}} = \frac{1.275}{5.909} = \mathbf{21.57\%}$$

**Table 3.16:** The Relative Importance of Clusters

Attributes	Level		Cluster 1		Cluster 2		Cluster 3	
	Number	Description	Utility*	Importance	Utility*	Importance	Utility*	Importance
Cleaning Ability	1	Good Cleaning Ability	<u>0.411</u>		<u>0.315</u>		<u>0.814</u>	
	2	Bad Cleaning Ability	-0.411	<b>15.30%</b>	-0.315	<b>25.10%</b>	-0.814	<b>20.57%</b>
Sudsing Ability	1	Good Sudsing Ability	<u>0.148</u>		<u>0.356</u>		<u>0.434</u>	
	2	Bad Sudsing Ability	-0.148	<b>5.52%</b>	-0.356	<b>28.36%</b>	-0.434	<b>10.98%</b>
Skin Care	1	Soft on Skin Care	<u>1.732</u>		<u>0.846</u>		<u>1.301</u>	
	2	Rough on Skin Care	-1.732	<b>64.44%</b>	-0.846	<b>67.38%</b>	-1.301	<b>32.89%</b>
Fragrance	1	Lasting Fragrance	-0.021		-0.080		<u>0.225</u>	
	2	No Lasting Fragrance	<u>0.021</u>	<b>-0.79%</b>	<u>0.080</u>	<b>-6.40%</b>	-0.225	<b>5.70%</b>
Density	1	High Density	-0.132		<u>0.046</u>		-0.136	
	2	Low Density	<u>0.132</u>	<b>-4.90%</b>	-0.046	<b>3.69%</b>	<u>0.136</u>	<b>-3.43%</b>
Price	1	100 DA	0.356		-0.108		<u>0.011</u>	
	2	150 DA	<u>0.386</u>		-0.239		-0.011	
	3	200 DA	-0.742	<b>20.43%</b>	<u>0.347</u>	<b>-18.13%</b>	-2.624	<b>33.30%</b>

\*. Most preferred level of each attribute is underlined

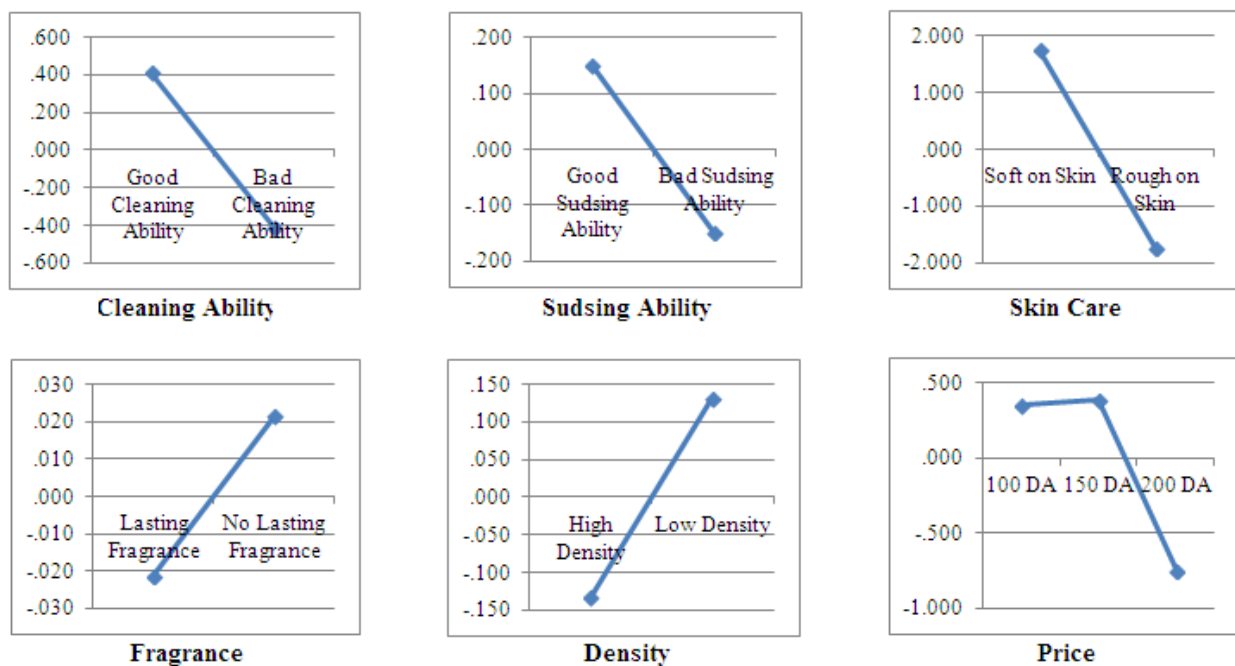
Source: SPSS Version 19

The measurements above were repeated across all respondents in each cluster (see **appendix 4**). The average part-worth and the relative importance of each attribute were then assessed

for each cluster as shown in **Table 3.16** above. Cluster analysis was in substantial use to determine the heterogeneity across respondents' preferences. From functions plots demonstrated below, there was a noticeable agreement of the three clusters on the preferred level of cleaning ability, sudsing ability and skin care. However, as Tukey post-hoc test indicated earlier, there are differences among clusters on fragrance, density and price.

Respondents in cluster 1 wanted dishwashing liquid that is characterized by no lasting fragrance, low density, good sudsing ability, costs 150 DA, has a good cleaning ability and soft on skin. Skin care was the most important attribute, followed by price, cleaning ability and sudsing ability. Fragrance and density did not have any importance on respondents' purchase decision making.

**Figure 3.12:** Part-Worth Functions of Cluster 1

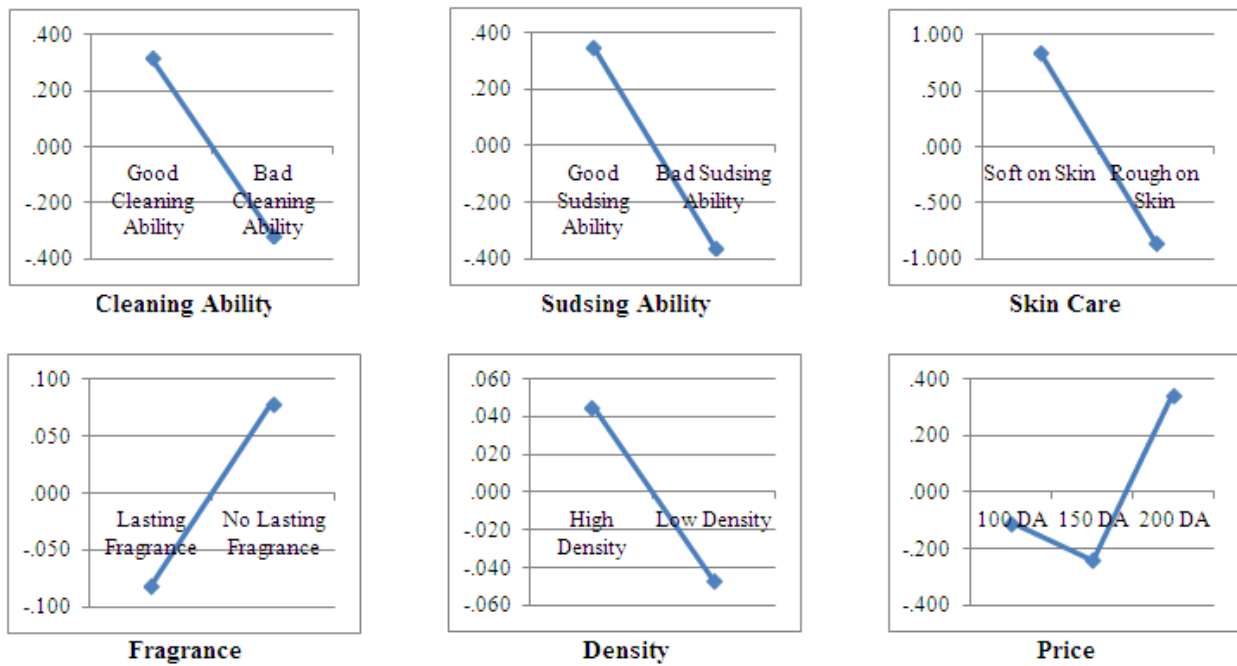


**Source:** Microsoft Office Excel 2007

Cluster 2 wanted a soft on skin dishwashing soap, with perfect cleaning and sudsing ability; a dishwashing liquid that contains high density, no lasting fragrance and cost 200 DA. Likewise, the attribute with the most relative importance respondents assign to a dishwashing liquid is skin care. Cleaning and sudsing ability are relatively equal in respect to relative importance and the greatest in value comparing to other clusters; followed by density. Price and fragrance are in no importance to this segment.

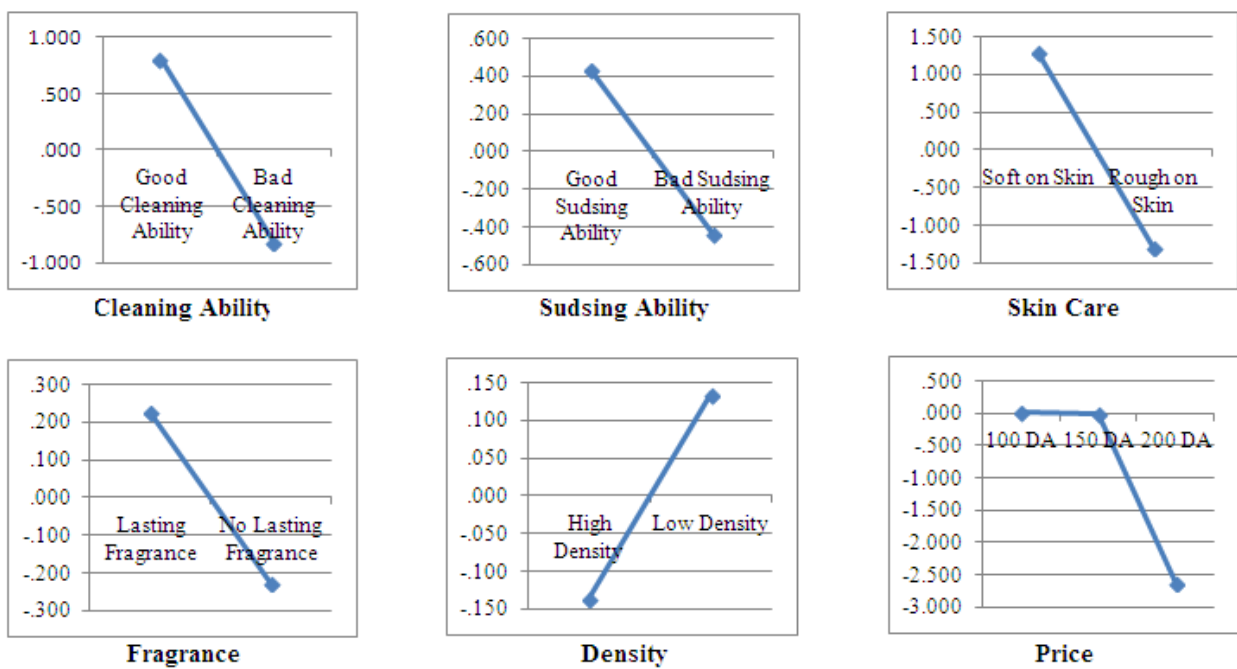
The last cluster emphasized on a dishwasher with cleaning and sudsing ability and soft on skin. Unlike the preceding segments; cluster 3 wanted in their dishwashing soap to contain a good lasting fragrance with low density and costs 100 DA. The attribute with the most relative importance was price. Skin care, cleaning ability, sudsing ability and fragrance came in this order in term of importance. Density on the other hand had no attached importance. This segment is price sensitive.

Figure 3.13: Part-Worth Functions of Cluster 2



Source: Microsoft Office Excel 2007

Figure 3.14: Part-Worth Functions of Cluster 3



Source: Microsoft Office Excel 2007

Cluster 2 is non-price sensitive segment and ready to pay the extra costs to have an outstanding product. This segment might include working class; does dishes ones a day and desires a product that has a perfect cleaning power because they perceive dishwashing as a fatigue task. Also this segment may contain highly sociable units that require a soft on hands

product because they are paying extra money and wanted the product to worth what they are paying for. In contrast, cluster 3 is price sensitive; this segment may contain house wives and heavy users of dishwashing liquid who require an acceptable product. This is the only segment that attaches importance to fragrance; since they wash dishes more than twice a day; at least they want to enjoy the duty. Finally, cluster 1 is the rational consumers (average segment) that might contain both house wives and working class with average income to afford medium priced product and soft on skin.

**Question 7: Rate the following brands on their attributes from 0 to 10. Where 10 represents the highest level on that attribute.**

**Define the Measurement Scale:** Respondents were provided by the antecedent brands and their attributes accordingly. They were asked to rate products performance on their attributes from 0 to 10. Since customers have more preferences to low prices; price is rated in reverse. This scale is a well-known in marketing research; question 7 is an interval scaled. SPSS reads interval scales as scale measures. Earlier, few brands were omitted from the analyses due to customer's unawareness of brands and not enough use to judge the brand accurately for those who know the brands. Thus, the proceeding analyses will focus only on the four brands that were analyzed in multidimensional scaling which are Pril ISIS, Test, Aigle and Fairy.

The average rating was measured across all respondents in each cluster for each brand at each attribute as illustrated in **Table 3.17** and **Figure 3.15** below.

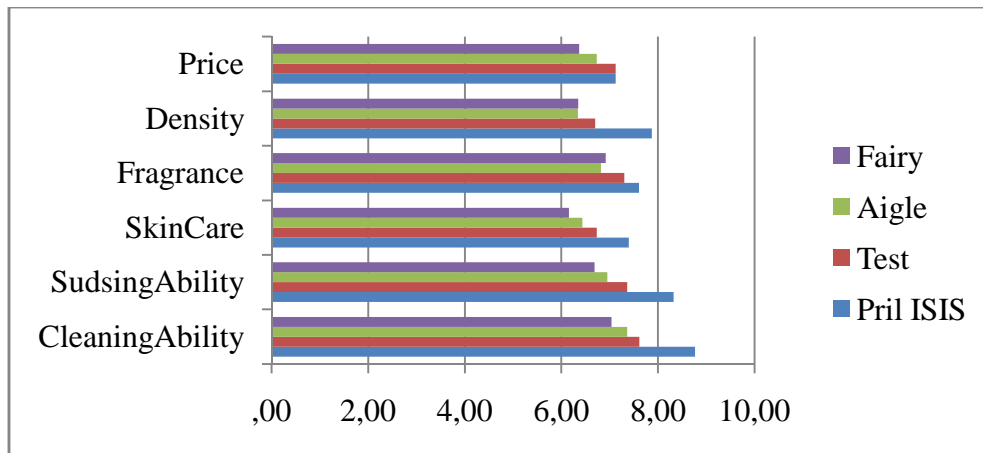
Pril ISIS exceeds all brands in all attributes; no wonder why it is the most preferred brand by 73.3%. However, there is a contradiction between what has been found in benchmarking tests conducted by Henkel and the results in this question. Henkel found that the Pril ISIS is better than Fairy in efficiency; but Fairy has more density (viscosity) then Pril ISIS. The inconsistency of results will be reverberated to the cause of not enough use of the new brand and due to its mass advertising. Since the new product Fairy is still in its introduction period, Henkel results are more reliable on the subject. Fairy's focus on density is a wrong positioning strategy because there is only one cluster which assigns little importance to the attribute (3.69%); therefore, Fairy is likely to withdraw the market.

**Table 3.17: Average Evaluation of the Brands Attributes**

Attributes	Pril ISIS	Test	Aigle	Fairy
Cleaning Ability	8.76	7.62	7.36	7.04
Sudsing Ability	8.32	7.36	6.95	6.68
Skin Care	7.40	6.74	6.43	6.15
Fragrance	7.61	7.30	6.82	6.92
Density	7.87	6.70	6.34	6.35
Price	7.12	7.12	6.73	6.37

Source: SPSS Version 19



**Figure 3.15:** Average Evaluation of the Brands Attributes

**Source:** Microsoft Office Excel 2007

Test and Aigle must strengthen their position in the market, because their products are not distinctly perceived as skin protectors. In fact, Pril ISIS that relies on grease fighting point-of-difference is perceived to overcome these two brands on the attribute.

Question 6 generated the relative importance respondents assign to each attribute; whereas, question 7 produced the performance of each attribute. To measure customer perceived value; question 6 and question 7 have to be combined to what termed “the expectancy-value model”. The expectancy-value model focuses solely on the importance customers attach to the attributes. Respondents seek different benefits, goals or values and their ratings vary from one to another as was discussed in cluster analysis. Therefore the expectancy-value model will be applied on the three benefit segments produced by cluster analysis.

After measuring respondents perceived value of each attribute in each cluster; respondents perceived value of each cluster is summarized in the **Table 3.18**. The measurements per attribute are illustrated in **appendix 5**. The following example demonstrates how to measure perceived value of Pril ISIS in cluster 1:

$$\text{Perceived value} = \sum_{i=1}^{n=6} \text{Attribute Evaluation} * \text{Relative Importance of the same attribute}$$

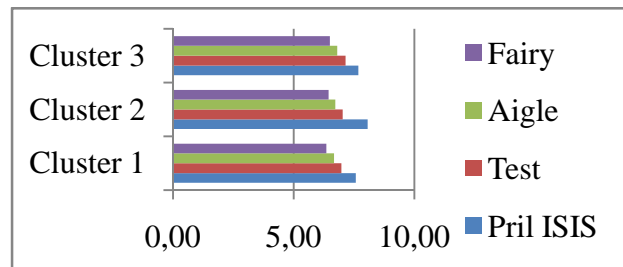
$$\begin{aligned} \text{Perceived value of Pril ISIS in Cluster 1} &= 8.76 * (15.30\%) + 8.32 * (5.52\%) + 7.40 \\ &* (64.44\%) + 7.61 * (-0.79\%) + 7.87 * (-4.90\%) + 7.12 * (20.43\%) \\ &= \mathbf{7.58} \end{aligned}$$

**Table 3.18:** Perceived Value of Each Cluster

Brands	Perceived Value		
	Cluster 1	Cluster 2	Cluster 3
Pril ISIS	7,58	8,06	7,69
Test	6,98	7,03	7,15
Aigle	6,67	6,73	6,81
Fairy	6,35	6,44	6,50

Source: SPSS Version 19

**Figure 3.16:** Perceived Value of Each Cluster



Source: Microsoft Office Excel 2007

Incredibly, Pril ISIS is perceived as the value provider to all respondents in all clusters. However, Henkel’s product is highly challenged by the second best; in fact the value provided by Pril ISIS is not that distinct from Test’s. Not surprisingly, Aigle and Fairy are in the end of the line in respect to value. Aigle is suffering from lack in efficiency and provides limited benefits. Fairy on the other hand, is perceived to be highly expensive and over priced concerning the product class of dishwashing soap; the price of Fairy is almost twice the price of the second expensive product. Test and Aigle must alter customers’ beliefs about their products and invest more to make their statement about their products being skin friendly stick to customers’ mind. To avoid market withdrawal, Fairy has two means to consider; (1) reduces the price to be competitive with other brands or (2) redesign the product and add attributes valued by customers and focus on them as point-of-differences, rather than density which is in no importance to customers.

**Question 8: Do you have a dishwasher?**

**Define the Measurement Scale:** Respondents were asked if they possess a dishwashing machine or not. Question 8 follows a nominal scaling measurement.

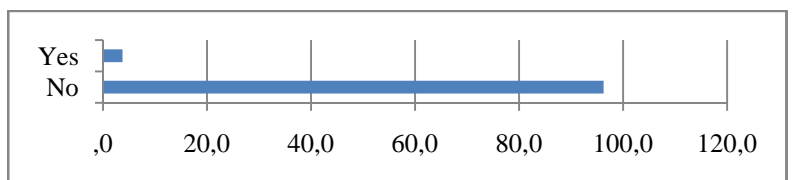
Most respondents did not have a dishwasher; it seems pretty obvious, because there are still some families who do not have a washing machine or air conditioner, which have major important than a dishwasher. However there exists a small fraction that does have a dishwasher by **3.8%**.

**Table 3.19:** Possession of a Dishwasher

	Frequency	Percent
No	385	96.3
Yes	15	3.8
Total	400	100.0

Source: SPSS Version 19

**Figure 3.17:** Possession of a Dishwasher



Source: Microsoft Office Excel 2007

**Question 9: Do you intend to purchase one?**

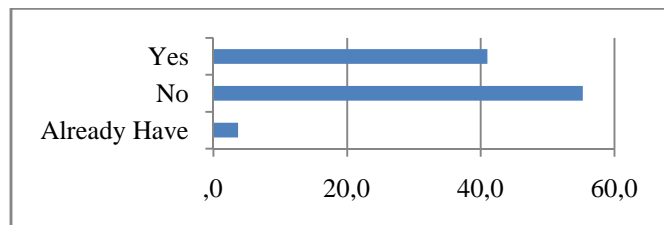
**Define the Measurement Scale:** In order to project the dishwashing liquid market attitude towards dishwashers; respondents who did not possess a dishwasher were asked if they intend to purchase one. The question is answered by yes or no; therefore it will be treated as nominal scaling measurement.

**Table 3.20:** Intention to purchase a Dishwasher

	Frequency	Percent
Already Have	15	3.8
No	221	55.3
Yes	164	41.0
Total	400	100.0

Source: SPSS Version 19

**Figure 3.18:** Intention to purchase a Dishwasher



Source: Microsoft Office Excel 2007

Note that the **3.8%** from the preceding question was coded as “already have”. Though, **41%** of those who do not have a dishwasher want to purchase one, and **55.3%** of respondents do not intend to purchase a dishwasher. There is a respondent who put it in an offensive form in the following quote: “*I have my hand, I’m not a cripple*”. Even in the ideal market (USA); dishwashing soap for hand-washing, is bought more frequently than dishwasher tabs. As an evidence, Procter & Gamble claims that Dawn, a dishwashing liquid dedicated for hand-washing is a billion dollar-brand; whereas, Cascade a brand devoted to wash by a dishwasher is not as frequently sold as Dawn.

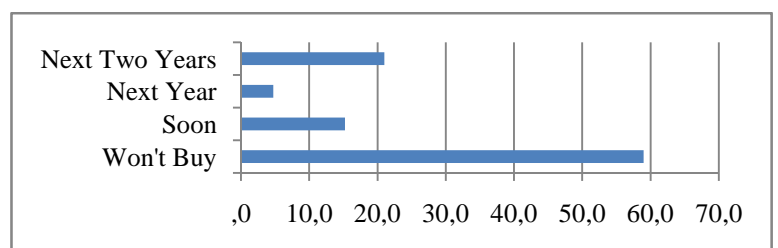
Respondents, who intend to purchase a dishwasher, were then asked to disclose the time scope of their purchase decision. Respondents were provided by time interval of maximum two years. Time or duration questions in marketing research are treated as ratio scale measurement in which SPSS recognizes as scale measurements.

**Table 3.21:** Time scope of Purchase Decision

	Frequency	Percent
Won't Buy	236	59.0
Soon	61	15.3
Next Year	19	4.8
Next Two Years	84	21.0
Total	400	100.0

Source: SPSS Version 19

**Figure 3.19:** Time scope of Purchase Decision



Source: Microsoft Office Excel 2007

Respondents who already have a dishwasher (**3.8%**) and those who do not have an intention to purchase one (**55.3%**) are referred to as “won’t buy” by **59.0%**. The **41.0%** of those who intend to buy a dishwasher were divided into three sub-segments in respect to time scope. From those who intend to buy, **15.3%** intend to buy it sooner and **4.8%** intend to buy it next year because they have thought about purchasing one. **21.0%** plan to purchase in the next two

years, this proportion in other words will not purchase a dishwasher because it is not rational to plan a purchase decision of a dishwasher class for two years. Therefore the accurate proportion that intends to purchase a dishwasher is **20.1%** (those who will buy it sooner or next year). Even so, a **20.1%** of respondents who intend to purchase, is not considered as an opportunity to manufacture dishwashing tabs. This proportion of **20.1%** (15.3%+4.8%) will reconsider its intention if they know what it takes to wash with a dishwasher. First they have to buy a dishwasher; second a dishwasher requires dishwashing tabs, rinsing liquid; and third it is a time consuming process from 30 minutes to three hours, depending on the type of dishes and the degree of grease. Besides all the antecedent requirements, the dishwasher might need other products such as regenerating salt to improve its efficiency and other products to clean itself. Henkel should consider the proportion of respondents who are unwilling to buy a dishwasher as an opportunity. Opportunity to launch new products based on the finding of relative importance.

### 3.2 Testing Hypotheses

#### 3.2.1 Hypothesis 1

**Henkel's products are the most preferred in the dishwashing liquid market.**

The results obtained from question 1, 2 and 5 are:

- **Question 1:** Pril ISIS was mentioned the first when respondents were asked which brand they knew by **69.0%**.
- **Question 2:** Pril ISIS was by far the most used brand by an approximate market share of **73.3%**.
- **Question 5:** probably due to the extent of its existence and its efficiency, Pril ISIS is the most preferred by **57.9%**.

From the findings presented above, in addition to the preference map presented in **Figure 3.10** which implies that Pril ISIS is the closest and the most surrounded by ideal products make it the most preferred dishwashing soap in the Algerian market. Therefore, based on this evidence the first hypothesis is **ACCEPTED**.

#### 3.2.2 Hypothesis 2

**Henkel's products are well-differentiated in the dishwashing liquid market.**

Findings based on question 3 and 4 are:

- **Question 3 and 4:** both questions were used to generate to spatial map presented in **Figure 3.8**. The map contains four brands Pril ISIS, Test, Aigle and Fairy.

The map has four blocks; the upper right block of interest contains Test, Aigle and Pril ISIS. These three brands are pretty close to each other according to their coordinates (.471; .162), (.603; .154) and (1.071; .122) respectively. Based on the coordinates of the brands in the spatial map as proof that Pril ISIS is not well-differentiated from rivals, in fact no one is. Pril ISIS is a bit differentiated on the efficiency dimension. Hence, hypothesis 2 is **REJECTED**.

### 3.2.3 Hypothesis 3

#### **Henkel's products deliver the greatest value in the dishwashing liquid market.**

Based on conjoint analysis and the expectancy-value the findings are:

- **Question 6:** this question was analyzed through conjoint analysis, in which it outputs the relative importance respondents assign to each attribute.
- **Question 7:** respondents rated products on the attributes basis. Rating was from 0 to 10; the point 10 was given to the highest level on that attribute, except price which was rated inversely because customers prefer low prices.

Based on the finding from these questions; the perceived value attached to the products Pril ISIS, Test, Aigle and Fairy in cluster 1 is: **7.58, 6.98, 6.67** and **6.35**; in the second cluster **8.06, 7.03, 6.73** and **6.44**; finally, in cluster three the perceived value for each brand is **7.69, 7.15, 6.81** and **6.50** respectively. Note that even if it is not well-distinguished, Pril ISIS is perceived to provide the highest value among rivals. Thus, Henkel's product delivers the greatest value to customer; which leads to the **ACCETANCE** of the third hypothesis.

Pril ISIS has a strategic positioning based on two dimensions (1) valuable position of variety-based positioning through serving few needs of many customers, and, (2) made a trade-off between grease removal ability over other functions. Products based on strategic positioning leads to the effects of most preferred product, leadership in market share and top of mind brand. Product differentiation on the other hand, reduces the threat of entry and increases the intensity of competition. Pril ISIS delivers the greatest value in the liquid dishwashing market because it has a clear position among its rivals.

Henkel must leverage from consumers' preferences to its product and the vicinity of its product to the ideal products. Pril ISIS might be considered as the ideal product if Henkel invest in an effective positioning strategy. From **question 8** and **question 9**, Algerian's trend to switch from hand-washing to wash with a dishwasher is immeasurably small. Henkel Algeria could invest more in its current products or develop new products to exceed its competitors in respect to differentiation. Products can be introduced to match the relative importance respondents link to each attribute; the products that can be introduced are:

- **Cluster 2:** Product characterized with a extra powerful cleaning ability, gentle on hands and a thicker viscosity, dedicated to those who are willing to pay the premium price.
- **Cluster 3:** To price sensitive segments, product that contains grease cleaning power and enjoyable scent, sold in low prices.

- **Cluster 1:** Product aims to glassware cleaning, soft on hands and sold with relatively low prices.

Shelves with these products under the name of Pril ISIS might be perceived highly differentiated; not to mention the delivered value targeting those specific needs. Henkel has the ability and the right environment to produce these products; especially products that are gentle on hands. It could use the experience of Schwarzkopf in the beauty field to launch skin friendly products and the experience of Loctite in the adhesives to improve the viscosity of its products; these products will worth paying for.

# Conclusion

Household care was chosen to be the industry of interest; tightening the boundaries of the industry by selecting the dishwashing liquid as the product under investigation. Henkel's Algeria product, Pril ISIS and its direct competitors were picked to be assessed in term of value. After approaching a judgmental sampling; 400 copies were collected and analyzed. Three analyses were conducted for specified purposes. Multidimensional scaling was conducted to examine the level of differentiation between brands; cluster analysis was conducted to produce benefit segments in which perceived value was assessed in each segment for each product by conjoint analysis and the expectancy-value model.

Value was assessed at the attribute level, at best reached the functional consequences of the product. Strategic positioning, on the other hand was analyzed at two levels due to limitation in sources and information.

Preference scaling was leveraged as an evidence to accept the first hypothesis. The second hypothesis was proven to be wrong by multidimensional scaling. Finally, the third hypothesis was accepted after conducting an aggregate level of conjoint analysis.

# General Conclusion

Positioning a business can be established broadly by employing one of the three generic competitive strategies based on a firm's industry structure and its capabilities. A consistent strategy with industry structure allows a firm to overcome the five competitive forces and being consistent with its capabilities allows a firm to deliver a greater value. However, a firm can gain a specific and sustainable positioning through the principle of strategic positioning. Undoubtedly, strategic positioning requires strategy, organizational and processes changes, but the payoffs are spectacular.

In order to have control on its industry structure a firm should create its own customers rather than getting head-to-head with competitors on the same segment. Customers seek benefits or positive consequences from each transaction, not products or products attributes per se; therefore, a firm has to segment its customers based on the benefits they seek. Furthermore, understanding customers' goals and values which are highly emotional allows a firm to better reach them and deliver a leap in customer value.

The extracted information from the survey analysis provides the following results:

- R1: There is a strong positive relationship between strategic positioning (cause) and being the top of mind brand, the market leader, the most preferred and delivering the greatest value (effects).
- R2: Brands in the liquid dishwashing market are slightly-differentiated; however there is a substantial point-of-difference between the leading brand and its challengers and followers.
- R3: Algerian consumers do not intend to alter their behavior into washing by dishwashers; their trends are quite stable in the liquid dishwashing market.

The research objectives were achieved. First, even when Henkel is slightly-differentiated from all angles; it is well positioned on grease removal ability which is what Pril ISIS focuses



on. Second, segmenting customers in respect to benefits produced distinguished segments with significant level of discrimination. Third, the relationship between strategic positioning and the magnitude of the delivered value is positive. The more valuable position a firm has, the right trade-off it makes and the more coordinated its activities are, the greater value it delivers to customers.

Based on the evidence from both theoretical and empirical researches; Henkel should consider the following suggestions:

- The benefit clustering produced three distinct segments differ in term of benefits. Henkel should develop new products to each segment based on the relative importance customers assign to attributes.
- Since Henkel is a corporation with several business units; it should create strategic interrelationships between the following business units. Due to the highly importance customers assign to skin care; a feasible strategic interrelationship can be created between the Home Care business unit and the Beauty Care business unit. The home care product “Pril” could leverage from the experience, and image of Schwarzkopf beauty care products “Aok or Diadermine” to create a skin friendly dishwashing soap. Another strategic interrelationship could be managed between the Home Care business unit and the Adhesives business unit to increase the level of viscosity of the dishwashing soap. With those strategic interrelationships, Henkel could deepen its strategic positioning.
- Employing both home care image and beauty care image increases Henkel’s differentiation in the dishwashing soap market. Henkel Algeria should also leverage from the German image of its products as another point-of-difference.
- Henkel should communicate the whole bundle of benefits and there consequences on customers, using both points-of-difference and points-of-parity.

There were several difficulties throughout the research. The main obstacle that worth dwelling on was the inability to assess fit among Henkel’s activities. The difficulty from respondents’ point of view; was the serious attention devoted to the questionnaire to complete the evaluations, especially on long scales.

As any research, the research has some limitations. Strategic positioning was dealt with on two dimensions rather than three, - valuable position and trade-offs -. The perceived value was addressed at the attribute level. The research would be inclusive if: (1) a qualitative research was conducted using laddering technique to reach the consequences level and highly personal values. And (2) if additional information was collected on respondents’ background variables to uncover the relationship between background information and the relative importance assigned to each attribute.

# Summary

The thesis consolidates two concepts which capture firms' interests. The first concept is competitive strategy and the second concept is customer value. The former concept has proliferated to become inevitable in all industries and the latter concept has become the pivotal determinant of success. A clear competitive strategy results a strategic positioning that leads to gain a competitive position against competitors, which is the premier task of each business unit. Customer value on the other hand, can be delivered through several means. However, the thesis embodies customer value from strategic positioning stand-point. The two concepts are merged together to generate the proceeding problematic:

*What are the Impacts of Creating Customer Value from Strategic Positioning Stand-Point on a Competitive Environment?*

The preceding problematic addresses several issues that need to be covered; therefore, the problematic is divided into two sub-questions as follow:

- What are the effects of strategic positioning on a competitive environment?
- Will strategic positioning be the premise to deliver greater value to customers?

As any scientific research, hypotheses were proposed to answer the sub-questions addressed above:

- Henkel's products are the most preferred in the dishwashing liquid market.
- Henkel's products are well-differentiated in the dishwashing liquid market.
- Henkel's products deliver the greatest value in the dishwashing liquid market.

The thesis is organized into two parts, theoretical and empirical. The theoretical part contains two chapters that will provide theoretical and conceptual guidance of the concepts

of interest. Whereas, the empirical part includes one chapter that represents several applications of the knowledge gained from the preceding chapters. The chapters throughout the thesis are organized into three sections.

Chapter 1 begins with inclusive explanation of the term strategy and its types at the business unit level. The term strategy throughout the thesis is used from the positioning school perspective according to *Henry Mintzberg*. The chapter then explores to how a firm can gain a broad competitive position; that is, choose one of the three generic strategies. Before selecting which generic strategy to apply, a firm must comprehensively analyze its industry structure. A better understanding of the five competitive forces results an appropriate competitive strategy that allows a firm to cope with the five forces better than competitors and offers the possibility to shape them in its favor. Selecting over-all cost leadership, differentiation or focus permits a firm to gain above-average profitability. However, the competitive position gained through one of the three strategies is broad and simple. Moving toward a specific competitive position requires a firm to have a valuable position, making trade-offs and coordinating its activities to create an activity system. These are the principles of strategic positioning.

Activities are what characterize and make a firm operational; however firms usually fall into the pitfall of performing these activities better; rather than different from rivals. Performing activities better than competitors leads to competing on operational effectiveness instead of strategic positioning. Section 2 of the chapter embodies a distinction between operational effectiveness and strategic positioning using the productivity frontier as a tool. The best combination to compete with is having a clear strategic positioning strengthened by operational effectiveness.

The final section of the chapter is occupied with strategic positioning and its principles and presents the Lincoln's Electric Company activity system as an example to illustrate the advantages of coordinating the firm's activities into one interrelated system. A simple competitive position insures above –average profitability, whereas, a position gained through strategic positioning insures a sustainable competitive position that leads to long term profitability.

Possessing a competitive position acquired through applying whether a generic strategy or strategic positioning permits a firm to compete on a value basis; however, the magnitude of the delivered value differs. Customers determine the success and failure of a firm and competing on value requires a firm to focus on customers' needs and fulfill them. Undoubtedly, needs are what drive marketing; but societies all over the world are becoming needless-societies because every firm is becoming perfect at identifying all kinds of needs and efficiently meet them.

Chapter 2 begins by drawing a distinction between two market orientations a firm may choose. Following either orientation is a flourish path; however the orientations differ in term of the amount of the delivered value. First, market-driven firms tend to be reactive to the environment and are forced to operate under the market conditions. Market-driven firms wait for needs to appear. Market-driving firms in contrast, create their own luck by creating new

customers. Firms that drive the market are innovative because they create new needs and teach their customers how to satisfy those needs by using their products.

Section 1 of the chapter, discusses at first the term perception; perception is created through affective and cognitive responses customers unleash during their exposure to the environment. The section then proceeds to illustrate the levels of product knowledge. Knowledge is gained through the interpretation process. That is attention (attend which information to interpret) and comprehension (making sense); the knowledge is then combined (accretion process) and stored in memory at three levels. These levels are described by the means-end chain. Product knowledge in the means-end chain is hierarchically related; starts with the concrete less abstraction level that represents product attribute, passing through functional and psychosocial consequences and ends at a high abstraction personal level that represents values.

In each purchase decision, customers perform subjective and mental accounting of the sacrifices they have to go on through to obtain a product against the tangible and intangible benefits they might get from it, the accounting process is discussed in section 2. For price-sensitive customers; sacrifices involve only monetary costs. Non-price-sensitive customers, in contrast, include different sacrifices in their purchase decision such as time, efforts and psychic costs. Benefits on the other hand, include concrete and functional benefits experienced during product consumption and those benefits that are highly personal which represent emotions. Due to the importance of benefits, firms now are segmenting their markets in respect to the benefit criterion. Firms respond effectively to segments produced by benefit segmentation because these firms deliver only what these segments appreciate. These benefits can be communicated as points-of-differences in addition to points-of-parity. The intangible values can be assessed through running the means-end approach (laddering techniques). However there is a much cheaper alternative discussed in section 3; which is assess customer value at the attribute level by conducting conjoint analysis and using the mean-end chain assumption that attributes lead to values.

In chapter 3, Henkel was chosen to be the firm of interest in the industry of household care. The first section of the chapter presents Henkel Group and Henkel Algeria. The chapter then proceeds to explain the methodology of the research. A questionnaire was designed after conducting an in-depth interview with the Henkel's marketing research manager and pilot testing. The questionnaire targeted a non-probability sample consisted of judgmental sample (a form of convenience sampling); 400 copies were retrieved and analyzed. The hypotheses were tested through both descriptive and inferential statistics in addition to information that was provided by Henkel. The measurement scale of each question (nominal, ordinal, interval or ratio) was determined before analyzed it.

The chapter put several analyses into application; each analysis was assessed in term of reliability and validity. First, preference scaling (PREFSCAL) was used to test the first hypothesis by examining the match between the four brands and consumers' ideal products; the ratings of respondents' preferences produced a spatial map. The spatial map indicated that Henkel's product Pril ISIS was by far the most surrounded and closest product to respondents' ideal products. Second, multidimensional analysis was conducted to assess the

level of differentiation between the dishwashing products. The scaling generated a spatial map that was labeled according to respondents' own criteria of similarity judgment; the spatial map indicated that the products of interest are not well-differentiated from each other. The third analysis was cluster analysis; this latter was used to prevent the majority fallacy. The criterion that was used to differentiate segments was the part-worth utilities (estimated  $\beta$ ) of the six attributes measured through ordinary least square (OLS) regression for each respondent of the 400 respondents. The benefit clustering produced three clusters. The differences among clusters were highly significant at all variables. The fourth analysis was conjoint analysis; conjoint analysis determined the relative importance that respondents assign to each attribute in each cluster. There was a substantial agreement among three clusters on the level of preference for the attributes cleaning ability, sudsing ability and skin care. Whereas, the preferences altered in the remaining attributes.

The most important attributes in cluster 1 was skin care, followed by price, cleaning ability and sudsing ability. Fragrance and density did not have any importance on respondents' purchase decision making. Likewise, the attribute with the most relative importance in cluster 2 was skin care. Cleaning and sudsing ability were relatively equal in respect to relative importance and the greatest among other clusters; followed by density. Price and fragrance are in no importance to this segment. Finally, cluster 3 assigned high importance to price. Skin care, cleaning ability, sudsing ability and fragrance came in this order in term of importance. Density on the other hand had no attached importance.

Progressing forward, the relative importance of attributes measured earlier is added as variables to the expectancy-value model to generate the perceived value of respondents in each cluster. Pril ISIS exceeds all products in respect to value in all clusters. The second value provider is Test tailed by Aigle and Fairy respectively.

In sum, the first hypothesis that reflects Pril ISIS preferences was accepted; whereas the second hypothesis that claims Pril ISIS to be well-differentiated was rejected because Pril ISIS only differs on its greasing removal ability. Finally, since the value delivered by Pril ISIS exceeds all brands, leads to the acceptance of third hypothesis.

Even if the research objectives were met; the research fell short in examining the third principle of strategic positioning which is fit among Henkel's activities. Furthermore, the conjoint analysis would be much more detailed if additional information were collected on respondents' background variable to say which relative importance to which attributes by which respondents.

**Key Words:** Strategic positioning, Perceived Value, Means-end chain, Benefit segmentation, Conjoint analysis

# **APPENDIXES**

**Appendix 1: The Questionnaire****The Ecole Supérieure de Commerce****Dishwashing Survey**

**Participation Requirements:** This questionnaire is aimed to women aged between 20 and 55; and least reach senior year of high school.

Hello ma'am;

In order to graduate; several information are need about your daily dishwashing experiences. You will be provided with the brands illustrated below to perform some evaluation tasks. Thank you for your cooperation.



- 1- What are the different liquid dishwashing brands do you know? Circle the number on the scale below that comes closest to your feeling on the matter  
.....
- 2- Which brand do you use the most? .....
- 3- Question 3: According to your experience, beliefs or ideas, judge if these brands are similar or dissimilar [**1 very similar, 7 very dissimilar**]; put **circle** on the right mark. If you do not know the brand, give the mark (4).

	Very Similar (1)	Similar (2)	Slightly Similar (3)	Neutral (4)	Slightly Dissimilar (5)	Dissimilar (6)	Very Dissimilar (7)
<b>Pril ISIS versus Test</b>	1	2	3	4	5	6	7
Pril ISIS versus Aigle	1	2	3	4	5	6	7
Pril ISIS versus Fairy	1	2	3	4	5	6	7
Pril ISIS versus Tex	1	2	3	4	5	6	7
Pril ISIS versus Power (Deter Clean)	1	2	3	4	5	6	7
Pril ISIS versus Bahdja	1	2	3	4	5	6	7
Pril ISIS versus Top	1	2	3	4	5	6	7
<b>Test versus Aigle</b>	1	2	3	4	5	6	7
Test versus Fairy	1	2	3	4	5	6	7
Test versus Tex	1	2	3	4	5	6	7
Test versus Power (Deter Clean)	1	2	3	4	5	6	7
Test versus Bahdja	1	2	3	4	5	6	7
Test versus Top	1	2	3	4	5	6	7
<b>Aigle versus Fairy</b>	1	2	3	4	5	6	7
Aigle versus Tex	1	2	3	4	5	6	7
Aigle versus Power (Deter Clean)	1	2	3	4	5	6	7
Aigle versus Bahdja	1	2	3	4	5	6	7
Aigle versus Top	1	2	3	4	5	6	7
<b>Fairy versus Tex</b>	1	2	3	4	5	6	7
Fairy versus Power (Deter Clean)	1	2	3	4	5	6	7
Fairy versus Bahdja	1	2	3	4	5	6	7
Fairy versus Top	1	2	3	4	5	6	7
<b>Tex versus Power (Deter Clean)</b>	1	2	3	4	5	6	7
Tex versus Bahdja	1	2	3	4	5	6	7
Tex versus Top	1	2	3	4	5	6	7
<b>Power (Deter Clean) versus Bahdja</b>	1	2	3	4	5	6	7
Power (Deter Clean) versus Top	1	2	3	4	5	6	7
<b>Bahdja versus Top</b>	1	2	3	4	5	6	7



- 4- Which criterion or criteria have you used the most, in evaluating the previous brands; put (x) in the right cell.

Cleaning Ability	Sudsing Ability	Skin Care	Fragrance	Density	Price

- 5- Rank the following brands from most preferred (1) to the least preferred (8)

Pril ISIS	Test	Aigle	Fairy	Tex	Power (Deter Clean)	Bahdja	Top

- 6- Give your preference rating to the following hypothetical products [1 = not preferred at all, 9 = greatly preferred].

Not Preferred at All 

1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---

 Greatly Preferred

	Cleaning Ability	Sudsing Ability	Skin Care	Fragrance	Density	Price	Rating
1	Good Cleaning Ability	Bad Sudsing Ability	Soft on Skin	No Lasting Fragrance	Low Density	200 DA	
2	Bad Cleaning Ability	Good Sudsing Ability	Rough On Skin	Lasting Fragrance	High Density	200 DA	
3	Bad Cleaning Ability	Bad Sudsing Ability	Rough On Skin	No Lasting Fragrance	High Density	150 DA	
4	Good Cleaning Ability	Bad Sudsing Ability	Rough On Skin	Lasting Fragrance	High Density	200 DA	
5	Good Cleaning Ability	Good Sudsing Ability	Soft on Skin	No Lasting Fragrance	High Density	100 DA	
6	Good Cleaning Ability	Good Sudsing Ability	Soft on Skin	No Lasting Fragrance	High Density	200 DA	
7	Bad Cleaning Ability	Good Sudsing Ability	Rough On Skin	Lasting Fragrance	Low Density	100 DA	
8	Good Cleaning Ability	Bad Sudsing Ability	Soft on Skin	Lasting Fragrance	High Density	150 DA	
9	Good Cleaning Ability	Good Sudsing Ability	Soft on Skin	Lasting Fragrance	Low Density	200 DA	
10	Bad Cleaning Ability	Bad Sudsing Ability	Soft on Skin	Lasting Fragrance	High Density	100 DA	
11	Good Cleaning Ability	Good Sudsing Ability	Rough On Skin	Lasting Fragrance	Low Density	150 DA	
12	Good Cleaning Ability	Bad Sudsing Ability	Soft on Skin	Lasting Fragrance	Low Density	100 DA	
13	Bad Cleaning Ability	Good Sudsing Ability	Rough On Skin	No Lasting Fragrance	Low Density	150 DA	
14	Good Cleaning Ability	Good Sudsing Ability	Soft on Skin	Lasting Fragrance	High Density	100 DA	
15	Good Cleaning Ability	Good Sudsing Ability	Soft on Skin	Lasting Fragrance	High Density	150 DA	
16	Bad Cleaning Ability	Good Sudsing Ability	Soft on Skin	Lasting Fragrance	High Density	200 DA	
17	Good Cleaning Ability	Bad Sudsing Ability	Soft on Skin	No Lasting Fragrance	Low Density	100 DA	
18	Bad Cleaning Ability	Bad Sudsing Ability	Rough On Skin	Lasting Fragrance	Low Density	100 DA	
19	Good Cleaning Ability	Bad Sudsing Ability	Rough On Skin	No Lasting Fragrance	High Density	150 DA	
20	Good Cleaning Ability	Bad Sudsing Ability	Rough On Skin	Lasting Fragrance	High Density	100 DA	

7- Rate the following brands on their attributes from 0 to 10. Where 10 represents the highest level on that attribute (Price is rated in reverse).

	Cleaning Ability	Sudsing Ability	Skin Care	Fragrance	Density	Price
Pril ISIS						
Test						
Aigle						
Fairt						
Tex						
Power (Deter Clean)						
Bahdja						
Top						

8- Do you have a dishwasher? No  Yes

9- Do you intend to purchase one? No  Yes

If YES, will you purchase one: Soon  Next Year  Next two Years

10- How old are you?

Less Than 25 years Old	[25 - 35]	[36 - 45]	[46 - 55]	More Than 55 Years Old

Thank You Ma'am for Your Precious Time



## Appendix 2: The Estimated Parameters

	Estimated Parameters							Reliability		Validity		Sig of Validity	
	$\beta_1$	$\beta_2$	$\beta_3$	$\beta_4$	$\beta_5$	$\beta_6$	$\beta_7$	R	R <sup>2</sup>	Pearson's rho	Spearman's rho	Sig of Pearson's rho	Sig of Spearman's rho
PREF1	1,003	,038	3,291	1,077	-,775	1,275	1,154	,737	,543	,737	,740	,000	,000
PREF2	,491	,606	4,662	-,558	,209	,841	,215	,732	,535	,732	,709	,000	,000
PREF3	-,814	,948	4,079	,304	,679	1,552	1,069	,784	,614	,784	,803	,000	,000
PREF4	2,023	2,268	2,298	-,469	,241	-,742	-1,259	,738	,544	,738	,769	,000	,000
PREF5	-,047	-1,552	2,367	-2,016	-,396	,731	,408	,672	,452	,672	,618	,001	,004
PREF6	1,190	-,084	2,270	,364	-,416	1,540	1,235	,571	,326	,571	,571	,009	,009
PREF7	1,781	,741	-,149	-1,050	-,275	-,347	-,284	,654	,427	,654	,577	,002	,008
PREF8	,979	2,082	1,291	,224	,831	,147	-,066	,500	,250	,500	,373	,025	,106
PREF9	,995	,506	-,052	-,782	-1,376	,689	-1,315	,607	,368	,607	,558	,005	,011
PREF10	2,279	2,756	1,646	,348	,540	3,694	2,804	,658	,433	,658	,682	,002	,001
PREF11	-,105	,301	2,459	,441	-,590	,788	,563	,596	,356	,596	,656	,006	,002
PREF12	-,111	-2,098	2,758	-,174	-,407	2,122	2,557	,660	,436	,660	,464	,002	,039
PREF13	-,905	1,689	3,404	-,011	1,064	1,161	,145	,720	,519	,720	,740	,000	,000
PREF14	2,214	-,014	2,655	,364	-,617	-,096	,149	,658	,433	,658	,679	,002	,001
PREF15	-,752	,688	4,775	1,264	1,470	-,259	,122	,829	,688	,829	,838	,000	,000
PREF16	,035	1,005	-2,184	-,059	-,122	-1,092	-1,025	,532	,283	,532	,477	,016	,033
PREF17	,622	-,510	2,800	-,150	-,265	1,129	,609	,770	,594	,770	,779	,000	,000
PREF18	1,036	-,380	3,810	-,340	-1,486	2,109	2,499	,842	,710	,842	,786	,000	,000
PREF19	-,696	,934	3,420	,442	,884	,620	,861	,737	,543	,737	,799	,000	,000
PREF20	-,345	,345	3,548	,153	,181	,910	2,702	,756	,572	,756	,692	,000	,001
PREF21	,366	2,252	1,648	-,253	-,181	,210	,632	,596	,355	,596	,550	,006	,012
PREF22	,398	,147	3,856	-,550	-,314	,628	,807	,826	,683	,826	,823	,000	,000
PREF23	1,292	-,849	2,226	-,538	-,569	1,565	1,611	,696	,485	,696	,628	,001	,003
PREF24	2,213	,760	1,882	-1,903	,504	-1,731	-,964	,776	,602	,776	,716	,000	,000
PREF25	1,176	-,028	3,797	,522	-,552	2,917	2,617	,933	,871	,933	,931	,000	,000
PREF26	,613	,662	3,369	-1,438	,469	-2,308	-,618	,842	,708	,842	,756	,000	,000
PREF27	,993	,574	2,440	-,350	,747	-,408	,707	,651	,424	,651	,604	,002	,005
PREF28	,837	1,182	3,801	-,926	,384	,041	,314	,748	,560	,748	,787	,000	,000
PREF29	-1,592	-,925	,854	-1,924	1,905	-2,524	-1,723	,744	,554	,744	,729	,000	,000
PREF30	1,135	1,359	2,545	,653	-,210	1,461	,632	,641	,410	,641	,601	,002	,005
PREF31	1,900	-,108	1,469	-1,024	1,543	1,127	1,153	,693	,480	,693	,688	,001	,001
PREF32	,375	-1,931	2,258	,253	-,436	1,660	,683	,627	,393	,627	,624	,003	,003
PREF33	-,259	1,372	3,188	,183	1,324	2,494	3,574	,808	,653	,808	,807	,000	,000
PREF34	,590	-,528	2,993	-1,196	-,859	,871	1,529	,652	,424	,652	,624	,002	,003
PREF35	,719	2,117	3,929	,578	2,070	1,153	1,667	,687	,472	,687	,699	,001	,001

## Appendix 2: (continued)

PREF36	.497	-1.548	3.083	1.861	.120	2.465	.824	.699	.488	.699	.570	.001	.009
PREF37	-.602	2.755	1.027	.413	.731	-.321	-.570	.596	.355	.596	.550	.006	.012
PREF38	-.279	-4.745	2.176	.434	-.019	2.293	3.372	.827	.683	.827	.819	.000	.000
PREF39	-.187	-.160	1.578	-.204	.160	2.184	.961	.825	.680	.825	.841	.000	.000
PREF40	.181	.523	3.736	-.901	-.108	.073	.433	.783	.613	.783	.750	.000	.000
PREF41	.559	.569	1.789	-.951	.416	-1.221	-.199	.688	.473	.688	.670	.001	.001
PREF42	.324	1.090	3.502	.149	-.084	.003	.836	.721	.519	.721	.682	.000	.001
PREF43	-.225	1.606	2.164	-1.142	-.259	-.671	-.752	.735	.540	.735	.757	.000	.000
PREF44	.993	.407	2.773	-.679	-1.598	.732	1.753	.721	.520	.721	.684	.000	.001
PREF45	1.304	1.435	2.419	-.545	-.152	.038	.999	.711	.506	.711	.630	.000	.003
PREF46	1.280	.423	2.922	-1.751	-1.882	.519	1.587	.657	.432	.657	.696	.002	.001
PREF47	.409	.736	4.524	-.635	.357	-.920	-1.183	.744	.553	.744	.719	.000	.000
PREF48	.778	.853	5.190	-.751	-.070	.484	.406	.789	.622	.789	.762	.000	.000
PREF49	.362	1.691	3.105	.533	1.320	-1.004	-.704	.601	.361	.601	.616	.005	.004
PREF50	2.048	2.368	2.149	-.148	-.328	5.747	2.909	.826	.683	.826	.813	.000	.000
PREF51	2.017	.847	4.953	.352	.382	-.384	.382	.744	.553	.744	.813	.000	.000
PREF52	.416	1.990	3.812	-1.225	.139	-1.593	-2.087	.768	.589	.768	.815	.000	.000
PREF53	1.121	.329	3.935	-.160	1.417	-1.202	-1.085	.826	.682	.826	.860	.000	.000
PREF54	-.041	2.221	3.080	-.199	.997	-.316	-.939	.618	.382	.618	.632	.004	.003
PREF55	1.653	.395	4.612	.191	.657	1.605	1.304	.811	.658	.811	.812	.000	.000
PREF56	.844	1.199	2.105	.994	.035	-.708	-2.189	.722	.522	.722	.619	.000	.004
PREF57	-2.777	-1.591	2.045	1.392	1.440	1.950	1.514	.717	.514	.717	.763	.000	.000
PREF58	1.808	1.793	.246	-.181	-2.122	.830	2.249	.652	.425	.652	.665	.002	.001
PREF59	-1.119	2.267	2.852	-.397	2.108	-.713	.570	.752	.566	.752	.835	.000	.000
PREF60	1.078	1.392	2.734	-.194	.659	2.750	2.885	.841	.707	.841	.822	.000	.000
PREF61	3.172	1.443	1.501	.511	.045	1.735	3.153	.778	.606	.778	.593	.000	.006
PREF62	.721	-.828	3.037	.490	-.326	1.090	1.550	.852	.726	.852	.835	.000	.000
PREF63	.641	.358	5.007	.326	-.574	1.266	1.035	.867	.752	.867	.817	.000	.000
PREF64	.577	.283	3.540	-1.581	.015	1.497	-.241	.783	.612	.783	.778	.000	.000
PREF65	1.074	.324	3.977	.408	-.199	2.350	3.477	.804	.647	.804	.779	.000	.000
PREF66	1.885	.516	2.096	1.138	-1.238	1.372	1.384	.718	.516	.718	.535	.000	.015
PREF67	-.100	.064	-.258	-2.083	.014	-.792	-.650	.462	.213	.462	.426	.040	.061
PREF68	.403	3.487	1.452	.126	1.970	-1.480	-1.346	.699	.488	.699	.750	.001	.000
PREF69	1.355	1.525	3.562	.679	-.029	2.093	2.265	.664	.441	.664	.713	.001	.000
PREF70	.024	.207	3.413	.711	-.756	.575	1.963	.788	.621	.788	.752	.000	.000
PREF71	1.031	-.244	2.572	-.595	-.776	.823	-.839	.849	.722	.849	.828	.000	.000
PREF72	.623	.469	4.375	-.570	.159	-.917	-.087	.900	.810	.900	.882	.000	.000
PREF73	.093	2.908	.133	-.618	1.814	.554	-.023	.628	.395	.628	.553	.003	.011
PREF74	2.337	-.931	1.220	-1.780	-1.921	.497	1.603	.732	.536	.732	.756	.000	.000
PREF75	2.265	.428	3.557	-.334	-.228	-.274	.019	.789	.623	.789	.767	.000	.000

## Appendix 2: (continued)

PREF76	1.878	1.084	.320	-.383	.114	2.197	3.158	.552	.305	.552	.534	.012	.015
PREF77	.073	-.658	1.794	.243	.180	2.013	2.206	.540	.291	.540	.452	.014	.045
PREF78	.186	-1.531	2.113	-.703	-1.512	-.438	-1.406	.501	.251	.501	.604	.024	.005
PREF79	1.093	.860	2.849	-.774	-.198	.767	1.994	.678	.459	.678	.669	.001	.001
PREF80	2.310	.103	1.961	-1.678	-1.838	1.360	1.168	.714	.510	.714	.726	.000	.000
PREF81	-.233	1.669	-1.437	-1.406	2.467	-.577	-.741	.738	.545	.738	.638	.000	.002
PREF82	1.209	.170	3.701	-.735	-.895	.406	-.206	.737	.543	.737	.689	.000	.001
PREF83	.083	-.845	4.016	-.718	-.737	1.170	1.671	.908	.825	.908	.847	.000	.000
PREF84	.723	.044	4.661	.238	-.446	1.505	2.750	.862	.744	.862	.839	.000	.000
PREF85	1.103	1.086	2.326	.722	-.583	-1.081	-1.467	.625	.391	.625	.588	.003	.006
PREF86	1.613	-.103	.745	.468	-.597	1.385	.015	.580	.336	.580	.514	.007	.021
PREF87	1.647	-.060	3.413	-.777	-1.496	1.547	3.105	.673	.453	.673	.596	.001	.006
PREF88	1.644	-.633	-2.341	-.214	-.248	-2.109	-.717	.738	.545	.738	.759	.000	.000
PREF89	.258	-.101	1.433	.952	.635	4.069	2.208	.739	.546	.739	.760	.000	.000
PREF90	2.168	.186	3.044	-1.221	-1.932	2.046	3.129	.753	.566	.753	.739	.000	.000
PREF91	2.654	.879	3.794	-.631	-.757	1.361	.713	.766	.587	.766	.797	.000	.000
PREF92	2.146	.180	2.981	-1.112	-1.803	2.223	3.307	.734	.538	.734	.740	.000	.000
PREF93	1.370	-.571	3.575	-1.879	-.313	.079	-.199	.733	.537	.733	.668	.000	.001
PREF94	-1.107	.346	.307	-1.692	1.491	-1.284	-1.769	.448	.201	.448	.430	.047	.058
PREF95	1.691	1.407	-.138	3.447	-1.605	.209	-.130	.667	.445	.667	.685	.001	.001
PREF96	-.092	.841	2.282	.463	1.070	2.475	2.628	.614	.378	.614	.614	.004	.004
PREF97	-.243	.715	2.924	-.623	.276	1.763	1.160	.723	.523	.723	.723	.000	.000
PREF98	.544	2.164	.778	-.406	-.265	2.374	-.873	.692	.479	.692	.683	.001	.001
PREF99	1.164	.960	3.443	-.192	-.544	-1.064	-1.333	.811	.658	.811	.829	.000	.000
PREF100	-.957	1.594	1.045	-1.406	2.547	-1.661	-.054	.700	.490	.700	.496	.001	.026
PREF101	2.148	1.437	.610	-.083	1.441	2.437	-.016	.668	.447	.668	.621	.001	.003
PREF102	.401	-.938	.548	.183	.184	-1.937	-2.943	.540	.291	.540	.451	.014	.046
PREF103	1.446	.734	3.344	.254	.377	2.314	2.239	.820	.672	.820	.842	.000	.000
PREF104	-.226	-.564	.671	-1.201	1.734	.156	-.330	.427	.182	.427	.391	.061	.088
PREF105	1.115	1.925	4.018	-.945	-.794	1.364	.975	.833	.693	.833	.745	.000	.000
PREF106	.444	-.680	2.261	1.093	-.889	1.844	1.818	.814	.663	.814	.817	.000	.000
PREF107	1.554	.324	3.543	.540	-.309	.531	.263	.684	.468	.684	.657	.001	.002
PREF108	-.232	-.086	4.371	.841	.189	.649	1.759	.777	.603	.777	.727	.000	.000
PREF109	1.390	1.275	3.966	.736	1.070	2.717	3.221	.748	.559	.748	.757	.000	.000
PREF110	2.626	.544	5.128	-.119	-1.125	1.158	.874	.877	.770	.877	.881	.000	.000
PREF111	1.459	.371	4.124	.029	-.206	1.028	.579	.805	.647	.805	.769	.000	.000
PREF112	-.179	1.590	-.131	-.834	1.048	-1.745	-.357	.610	.372	.610	.654	.004	.002
PREF113	-.498	-.482	.450	-.182	-2.753	-1.590	-2.078	.699	.489	.699	.725	.001	.000
PREF114	-.273	-1.042	1.962	-.470	.320	.485	.690	.649	.421	.649	.506	.002	.023
PREF115	2.011	-.538	2.071	1.546	-1.985	1.775	1.828	.635	.403	.635	.573	.003	.008

## Appendix 2: (continued)

<b>PREF116</b>	.282	-.436	1.776	-.309	1.226	.043	1.259	.511	.261	.511	.476	.021	.034
<b>PREF117</b>	1.963	2.853	1.940	.177	1.282	2.114	2.043	.641	.411	.641	.607	.002	.005
<b>PREF118</b>	.159	-1.972	2.886	.418	-1.691	1.272	-.040	.596	.355	.596	.577	.006	.008
<b>PREF119</b>	-2.832	-2.659	3.889	-.675	.892	-2.081	-1.094	.727	.529	.727	.697	.000	.001
<b>PREF120</b>	.599	-1.924	2.870	2.970	-.007	1.602	1.301	.828	.685	.828	.678	.000	.001
<b>PREF121</b>	.945	1.372	2.957	.127	.420	-.294	-.248	.720	.518	.720	.736	.000	.000
<b>PREF122</b>	2.070	.571	2.126	.274	-1.015	.464	.557	.593	.352	.593	.629	.006	.003
<b>PREF123</b>	1.868	1.122	1.468	-.797	-1.400	1.933	.849	.698	.487	.698	.636	.001	.003
<b>PREF124</b>	2.278	.686	.719	-.372	-2.514	-.068	-.532	.555	.308	.555	.529	.011	.016
<b>PREF125</b>	-.622	-2.003	2.379	-.646	-2.220	-.535	.076	.563	.317	.563	.573	.010	.008
<b>PREF126</b>	1.314	-.142	3.420	.042	.174	1.630	1.055	.752	.566	.752	.762	.000	.000
<b>PREF127</b>	.585	.209	2.320	.901	-.231	.416	-1.429	.653	.426	.653	.605	.002	.005
<b>PREF128</b>	2.119	.263	3.396	.587	.024	.327	.165	.798	.637	.798	.802	.000	.000
<b>PREF129</b>	.938	.902	3.329	-.209	1.549	1.277	.409	.787	.620	.787	.773	.000	.000
<b>PREF130</b>	1.306	.630	3.163	.664	.095	1.570	.898	.738	.545	.738	.732	.000	.000
<b>PREF131</b>	1.375	-.470	2.797	.866	-.892	2.441	-.261	.778	.606	.778	.811	.000	.000
<b>PREF132</b>	1.297	1.302	2.122	1.804	-.403	.168	-.159	.633	.400	.633	.574	.003	.008
<b>PREF133</b>	1.919	1.840	1.206	.810	.344	2.084	2.433	.581	.337	.581	.322	.007	.166
<b>PREF134</b>	-.032	.221	4.785	-.970	-.266	.202	1.486	.881	.777	.881	.834	.000	.000
<b>PREF135</b>	-1.008	.867	4.093	.790	1.480	-.416	-.849	.781	.610	.781	.833	.000	.000
<b>PREF136</b>	1.344	1.736	3.372	.647	-.340	-.636	-2.538	.878	.771	.878	.853	.000	.000
<b>PREF137</b>	.450	2.088	3.760	.739	2.110	1.031	-.461	.774	.599	.774	.752	.000	.000
<b>PREF138</b>	.128	-.545	2.408	-.264	-.923	-.482	-1.827	.564	.318	.564	.516	.010	.020
<b>PREF139</b>	-.894	.982	1.201	.620	.536	.692	1.053	.615	.379	.615	.526	.004	.017
<b>PREF140</b>	1.626	1.655	3.516	.001	-.650	.557	1.292	.711	.505	.711	.673	.000	.001
<b>PREF141</b>	.849	-1.445	1.738	-.377	-1.766	-.062	-1.232	.538	.289	.538	.512	.014	.021
<b>PREF142</b>	.707	-.494	2.008	.539	.089	.180	-.386	.429	.184	.429	.368	.059	.110
<b>PREF143</b>	.905	.967	2.050	.130	-.007	-.323	-.539	.561	.315	.561	.580	.010	.007
<b>PREF144</b>	.460	1.141	3.964	1.294	1.254	1.102	1.880	.785	.616	.785	.822	.000	.000
<b>PREF145</b>	.089	-.567	-1.273	.138	.551	1.380	1.740	.702	.493	.702	.731	.001	.000
<b>PREF146</b>	1.375	-.470	2.797	.866	-.892	2.441	-.261	.778	.606	.778	.811	.000	.000
<b>PREF147</b>	2.325	1.252	3.172	-.548	-.668	1.026	-.486	.811	.658	.811	.787	.000	.000
<b>PREF148</b>	1.917	1.154	2.285	-.630	-.347	1.122	.574	.628	.395	.628	.644	.003	.002
<b>PREF149</b>	.444	-.018	3.322	.823	-.705	1.902	1.668	.755	.569	.755	.796	.000	.000
<b>PREF150</b>	.994	.613	3.510	1.608	-1.564	.775	2.480	.706	.499	.706	.695	.001	.001
<b>PREF151</b>	-.798	-.012	3.120	-.542	-.159	.749	.653	.642	.412	.642	.602	.002	.005
<b>PREF152</b>	1.202	1.128	3.146	.196	.215	1.797	1.977	.755	.570	.755	.766	.000	.000
<b>PREF153</b>	.124	-.502	3.038	.458	.693	-1.483	-.816	.669	.448	.669	.623	.001	.003
<b>PREF154</b>	.161	-1.066	1.364	-.046	-1.517	2.103	1.999	.622	.387	.622	.653	.003	.002
<b>PREF155</b>	.996	.247	1.149	.866	.185	1.113	2.080	.448	.201	.448	.506	.048	.023

## Appendix 2: (continued)

<b>PREF156</b>	.748	-.197	1.964	-.296	-1.028	.669	1.801	.467	.218	.467	.407	.038	.075
<b>PREF157</b>	2.165	1.094	1.863	1.934	-1.296	1.764	.749	.781	.610	.781	.742	.000	.000
<b>PREF158</b>	.161	.160	1.526	.662	.094	1.192	2.422	.587	.344	.587	.585	.007	.007
<b>PREF159</b>	-.048	.982	2.612	1.200	-.335	-.818	.418	.630	.396	.630	.546	.003	.013
<b>PREF160</b>	1.212	1.486	3.435	-1.767	-1.118	.394	.630	.802	.643	.802	.827	.000	.000
<b>PREF161</b>	1.837	2.234	4.083	.257	.325	2.666	3.574	.821	.674	.821	.853	.000	.000
<b>PREF162</b>	-.303	.710	2.823	1.453	1.921	.777	3.259	.823	.678	.823	.835	.000	.000
<b>PREF163</b>	.657	.432	2.513	.827	.150	1.425	1.149	.692	.478	.692	.676	.001	.001
<b>PREF164</b>	-2.335	.310	2.008	.153	-.108	.557	-.022	.568	.323	.568	.554	.009	.011
<b>PREF165</b>	.780	-.269	4.419	.609	-.064	2.119	1.849	.848	.719	.848	.848	.000	.000
<b>PREF166</b>	1.145	1.914	3.748	-.779	-.102	.951	1.111	.832	.692	.832	.840	.000	.000
<b>PREF167</b>	.913	1.393	4.221	.039	.514	1.631	1.444	.691	.478	.691	.693	.001	.001
<b>PREF168</b>	.142	.109	3.225	.464	-1.590	.986	3.623	.740	.548	.740	.742	.000	.000
<b>PREF169</b>	1.183	.340	3.470	.079	-.367	1.480	1.407	.718	.515	.718	.672	.000	.001
<b>PREF170</b>	.797	.128	3.045	1.571	1.027	.395	-.339	.683	.466	.683	.584	.001	.007
<b>PREF171</b>	1.646	1.448	2.407	1.289	.327	1.641	1.796	.770	.593	.770	.749	.000	.000
<b>PREF172</b>	.163	.411	1.550	-.920	-.789	.185	.856	.523	.273	.523	.613	.018	.004
<b>PREF173</b>	.869	-.168	3.812	1.089	.796	1.778	.680	.822	.676	.822	.847	.000	.000
<b>PREF174</b>	.715	.204	3.017	.727	.036	1.627	2.036	.703	.495	.703	.736	.001	.000
<b>PREF175</b>	.871	.157	2.150	1.694	-1.372	2.825	.036	.773	.598	.773	.690	.000	.001
<b>PREF176</b>	1.824	-.479	4.988	.294	-.807	1.898	2.312	.925	.856	.925	.886	.000	.000
<b>PREF177</b>	1.403	1.455	4.205	.924	.873	.487	-.219	.837	.701	.837	.804	.000	.000
<b>PREF178</b>	1.423	-.603	3.337	.146	-.453	1.224	.819	.706	.498	.706	.705	.001	.001
<b>PREF179</b>	1.650	.445	2.848	.525	-1.601	2.824	3.558	.736	.541	.736	.748	.000	.000
<b>PREF180</b>	1.552	1.421	3.673	-.411	.714	1.084	.190	.736	.542	.736	.794	.000	.000
<b>PREF181</b>	.615	.826	3.256	1.009	.351	2.645	2.717	.834	.696	.834	.809	.000	.000
<b>PREF182</b>	.968	.402	3.271	-.833	-.471	1.887	.893	.710	.505	.710	.678	.000	.001
<b>PREF183</b>	.876	.175	4.844	-.945	-.989	-.471	.842	.805	.648	.805	.778	.000	.000
<b>PREF184</b>	1.439	.565	2.193	-.186	-1.169	.027	.242	.625	.391	.625	.613	.003	.004
<b>PREF185</b>	1.650	.445	2.848	.525	-1.601	2.824	3.558	.736	.541	.736	.748	.000	.000
<b>PREF186</b>	.437	-.152	6.025	.172	.043	.032	-.491	.911	.830	.911	.809	.000	.000
<b>PREF187</b>	.869	-.168	3.812	1.089	.796	1.778	.680	.822	.676	.822	.847	.000	.000
<b>PREF188</b>	4.974	-1.257	1.085	.988	-2.722	3.708	4.397	.722	.522	.722	.686	.000	.001
<b>PREF189</b>	.216	.219	3.251	-1.613	-1.147	-.311	-.837	.781	.611	.781	.762	.000	.000
<b>PREF190</b>	.877	.976	2.540	1.082	.837	.182	-.294	.562	.316	.562	.467	.010	.038
<b>PREF191</b>	.960	.086	3.270	-.766	.017	1.403	1.671	.763	.582	.763	.717	.000	.000
<b>PREF192</b>	1.126	-.535	5.401	-.185	-2.136	1.030	1.002	.892	.795	.892	.864	.000	.000
<b>PREF193</b>	.387	.791	3.956	1.854	1.751	1.485	1.464	.798	.638	.798	.683	.000	.001
<b>PREF194</b>	-.447	1.987	1.994	-.288	1.606	1.044	1.421	.527	.278	.527	.565	.017	.009
<b>PREF195</b>	-.376	2.107	2.012	-.286	1.837	1.259	1.790	.541	.293	.541	.539	.014	.014

## Appendix 2: (continued)

<b>PREF196</b>	.504	-.252	2.049	-.185	-.212	1.358	.660	.718	.515	.718	.720	.000	.000
<b>PREF197</b>	.094	-.141	2.459	-.215	.070	1.313	.685	.726	.527	.726	.777	.000	.000
<b>PREF198</b>	.336	-.801	2.814	-.383	-.336	.012	.060	.680	.462	.680	.595	.001	.006
<b>PREF199</b>	.192	-.951	3.301	-.950	-.900	.913	1.007	.760	.577	.760	.733	.000	.000
<b>PREF200</b>	1.885	.289	2.933	.430	.152	2.283	1.961	.677	.458	.677	.695	.001	.001
<b>PREF201</b>	1.817	.625	2.675	-.867	.073	-1.896	-.247	.598	.358	.598	.629	.001	.001
<b>PREF202</b>	1.971	2.210	2.402	-.490	1.215	2.236	1.348	.642	.412	.642	.575	.005	.003
<b>PREF203</b>	.565	1.013	.777	-1.206	-1.684	-.605	1.514	.715	.511	.715	.754	.002	.008
<b>PREF204</b>	1.714	.175	1.769	.550	-3.132	2.431	2.440	.631	.398	.631	.641	.000	.000
<b>PREF205</b>	.876	.819	3.477	-.609	-1.453	1.380	1.271	.704	.495	.704	.721	.003	.002
<b>PREF206</b>	1.241	.233	3.966	.738	-.951	1.138	2.233	.811	.658	.811	.797	.001	.000
<b>PREF207</b>	.817	.593	2.429	-1.070	.976	-1.929	-.119	.736	.541	.736	.668	.000	.000
<b>PREF208</b>	.905	.967	2.050	.130	-.007	-.323	-.539	.561	.315	.561	.580	.000	.001
<b>PREF209</b>	.510	1.259	4.528	-.009	-.189	1.877	2.394	.824	.679	.824	.813	.010	.007
<b>PREF210</b>	.966	1.799	2.489	1.672	.145	-.872	.856	.593	.352	.593	.618	.000	.000
<b>PREF211</b>	.277	.575	1.331	.507	.011	1.533	.050	.602	.362	.602	.445	.006	.004
<b>PREF212</b>	.277	.575	1.331	.507	.011	1.533	.050	.602	.362	.602	.445	.005	.049
<b>PREF213</b>	-3.504	-1.608	-1.023	2.923	-.413	.690	.665	.737	.543	-.071	-.031	.766	.895
<b>PREF214</b>	-.309	1.163	2.272	-.655	.137	.912	.028	.645	.416	-.246	-.164	.295	.489
<b>PREF215</b>	1.776	1.978	3.568	-.525	.121	.232	-.071	.802	.643	.676	.734	.001	.000
<b>PREF216</b>	1.821	1.165	3.793	-.073	-.004	1.273	.393	.843	.711	.813	.807	.000	.000
<b>PREF217</b>	-.310	-1.381	2.595	-1.213	-.713	.927	1.150	.669	.447	.424	.295	.062	.207
<b>PREF218</b>	.451	2.127	1.830	-.302	-.201	-.787	-.688	.659	.434	.183	.151	.440	.526
<b>PREF219</b>	-.143	-.174	2.063	-.014	.931	1.019	1.974	.704	.496	.134	.218	.573	.356
<b>PREF220</b>	.274	-.873	2.784	.999	-.816	2.101	1.099	.817	.667	.555	.671	.011	.001
<b>PREF221</b>	3.131	-.388	3.300	.130	-1.899	2.795	2.955	.784	.614	.606	.637	.005	.003
<b>PREF222</b>	.318	.205	3.011	-.229	.316	1.197	3.454	.705	.497	.509	.496	.022	.026
<b>PREF223</b>	1.021	1.118	2.230	-1.107	.809	2.130	3.859	.719	.517	.658	.637	.002	.003
<b>PREF224</b>	1.560	1.235	2.676	.510	-.738	2.150	-1.725	.878	.770	.079	.108	.741	.652
<b>PREF225</b>	-.089	.257	4.582	1.769	.801	1.874	1.706	.920	.847	.486	.424	.030	.062
<b>PREF226</b>	.377	.952	4.093	2.224	1.697	1.515	1.369	.801	.642	.773	.689	.000	.001
<b>PREF227</b>	1.538	-.493	5.057	-.491	-2.057	1.040	1.135	.869	.755	.518	.535	.019	.015
<b>PREF228</b>	1.157	.774	2.864	-1.026	-.737	2.442	2.250	.735	.540	.643	.581	.002	.007
<b>PREF229</b>	1.883	-.290	3.184	.940	-.459	2.953	2.587	.678	.459	.547	.486	.012	.030
<b>PREF230</b>	1.618	.617	4.959	-1.042	-.611	1.785	1.752	.891	.795	.739	.719	.000	.000
<b>PREF231</b>	.663	.180	3.976	-.506	-.695	.021	.483	.735	.540	.710	.667	.000	.001
<b>PREF232</b>	-.782	.675	2.012	-1.908	2.004	-1.275	-.676	.686	.471	.425	.391	.062	.088
<b>PREF233</b>	.266	1.255	2.894	.285	.568	1.190	2.513	.668	.446	.356	.307	.123	.188
<b>PREF234</b>	.996	.161	3.013	.896	-2.051	3.073	1.982	.712	.507	.486	.372	.030	.106
<b>PREF235</b>	.897	.666	3.868	.005	-1.069	2.017	1.691	.695	.483	.635	.557	.003	.011



## Appendix 2: (continued)

PREF236	.719	.475	1.904	-.173	-.269	1.686	3.204	.462	.213	.349	.427	.132	.060
PREF237	-.539	1.319	2.452	1.406	.120	.950	.011	.645	.416	.247	.325	.293	.162
PREF238	.705	.992	3.970	-.401	.138	.845	1.642	.818	.669	.554	.590	.011	.006
PREF239	-.070	.784	2.241	.389	.479	-.314	.013	.567	.321	.515	.479	.020	.032
PREF240	1.235	.286	5.589	.539	-.548	.649	1.073	.918	.842	.839	.800	.000	.000
PREF241	.721	.207	3.892	.278	-.031	1.507	1.389	.794	.630	.771	.774	.000	.000
PREF242	1.148	.554	2.603	.649	-.958	1.056	-.355	.623	.388	.521	.522	.018	.018
PREF243	1.197	.655	3.130	.393	-.317	1.077	1.049	.758	.574	.677	.698	.001	.001
PREF244	.482	1.354	5.154	-.086	-.109	2.423	1.738	.904	.818	.858	.804	.000	.000
PREF245	.206	-.059	4.492	.709	.296	.912	1.366	.778	.605	.720	.718	.000	.000
PREF246	.760	.904	3.063	.974	1.397	1.073	.815	.609	.371	.546	.471	.013	.036
PREF247	-.121	.350	2.552	1.284	.413	1.469	1.354	.662	.439	.586	.566	.007	.009
PREF248	.653	.212	4.518	.468	-.335	.536	.931	.806	.649	.671	.661	.001	.002
PREF249	1.269	-1.254	3.510	-.222	-.986	.643	.512	.780	.608	.709	.635	.000	.003
PREF250	1.031	2.541	2.231	-.520	.135	.722	.914	.706	.498	.375	.309	.103	.184
PREF251	1.133	.078	3.664	.473	-.693	1.890	1.635	.795	.633	.554	.555	.011	.011
PREF252	.705	.247	2.771	.924	.648	.583	.970	.545	.297	.489	.548	.029	.012
PREF253	.817	.642	6.103	-1.473	-1.280	-.688	-.827	.871	.760	.626	.565	.003	.009
PREF254	3.969	1.218	.787	-.996	-.195	1.364	1.210	.710	.505	.332	.331	.153	.154
PREF255	-.319	-.607	3.728	.850	-.061	1.320	-.698	.848	.719	.110	.106	.645	.655
PREF256	1.376	1.738	4.142	-.260	.339	1.868	2.432	.872	.761	.613	.570	.004	.009
PREF257	.640	.585	4.559	-.525	-.232	-.191	.767	.802	.644	.745	.703	.000	.001
PREF258	.640	.585	4.559	-.525	-.232	-.191	.767	.802	.644	.802	.771	.000	.000
PREF259	2.139	1.788	2.275	.326	-.762	2.231	2.853	.692	.479	.530	.562	.016	.010
PREF260	.348	-.439	3.930	.383	-.007	-1.079	.337	.777	.604	.493	.522	.027	.018
PREF261	-.043	2.011	2.517	.784	1.300	.328	1.710	.626	.392	.436	.424	.055	.063
PREF262	.191	.147	1.648	.243	1.589	-.605	1.591	.545	.296	.405	.443	.076	.050
PREF263	.831	-.446	1.329	-1.834	-1.241	-.097	1.919	.667	.445	.275	.261	.240	.266
PREF264	.602	.763	2.010	.554	.149	1.494	1.818	.802	.643	.302	.197	.195	.406
PREF265	1.803	2.715	3.057	-.921	.230	2.897	.974	.720	.519	.507	.529	.022	.016
PREF266	.913	1.393	4.221	.039	.514	1.631	1.444	.691	.478	.631	.689	.003	.001
PREF267	.996	.247	1.149	.866	.185	1.113	2.080	.448	.201	.126	.118	.595	.619
PREF268	1.518	.942	2.717	-1.629	-.692	1.499	1.364	.655	.429	.555	.523	.011	.018
PREF269	1.071	.631	1.231	.213	-.482	1.238	.717	.616	.380	.335	.278	.149	.236
PREF270	1.992	1.300	2.383	-.774	-.144	1.170	1.611	.704	.496	.668	.698	.001	.001
PREF271	2.010	1.627	1.520	-1.270	-1.106	-.294	-.875	.624	.390	.422	.395	.064	.085
PREF272	1.839	-.031	2.678	.293	-1.240	1.869	.726	.652	.425	.521	.557	.018	.011
PREF273	.550	.992	4.771	.620	.999	-.211	.317	.790	.624	.410	.539	.073	.014
PREF274	2.414	1.382	2.813	-.891	-.640	1.881	.942	.679	.461	.605	.677	.005	.001
PREF275	1.518	.942	2.717	-1.629	-.692	1.499	1.364	.655	.429	.472	.449	.036	.047

## Appendix 2: (continued)

PREF276	1.154	.548	1.264	1.004	-.349	2.332	2.789	.384	.147	.171	.192	.471	.417
PREF277	.155	1.200	3.720	.096	-.221	1.332	2.118	.672	.452	.543	.524	.013	.018
PREF278	.900	1.107	2.810	-1.098	-.368	1.229	1.399	.606	.368	.313	.354	.180	.126
PREF279	.322	-.920	2.461	.249	-.141	-.076	-2.722	.723	.522	.261	.215	.266	.364
PREF280	-.053	-.283	2.331	.711	.096	.343	1.493	.714	.510	.453	.498	.045	.025
PREF281	1.229	2.576	2.979	1.687	1.521	2.307	2.854	.806	.649	.178	.104	.452	.663
PREF282	.537	1.569	3.942	.329	-1.060	2.722	1.913	.852	.726	.596	.584	.006	.007
PREF283	.164	.235	4.279	1.113	-1.190	2.266	1.383	.835	.697	.586	.588	.007	.006
PREF284	1.698	.041	2.767	-.330	-.121	.043	-.143	.756	.571	.508	.466	.022	.038
PREF285	1.698	.041	2.767	-.330	-.121	.043	-.143	.756	.571	.515	.494	.020	.027
PREF286	.874	-.156	4.289	.279	-.216	1.716	1.553	.900	.809	.763	.747	.000	.000
PREF287	1.235	.286	5.589	.539	-.548	.649	1.073	.918	.842	.826	.779	.000	.000
PREF288	-1.335	-1.509	1.495	1.290	.687	2.242	.385	.632	.400	.285	.351	.223	.129
PREF289	2.114	.694	4.029	-.383	-.067	3.963	1.928	.807	.651	.667	.628	.001	.003
PREF290	-1.433	-.095	.826	-1.038	-.228	2.855	2.410	.617	.381	.314	.356	.178	.123
PREF291	-.561	-.363	1.510	-.024	.616	-2.757	-.113	.594	.353	-.015	.062	.950	.797
PREF292	5.326	1.351	1.348	.349	-2.446	-.016	-1.554	.766	.586	-.397	-.499	.083	.025
PREF293	-2.121	-.449	2.074	.401	1.053	1.746	3.147	.729	.532	.192	.205	.418	.385
PREF294	-1.263	1.481	1.919	1.896	1.332	.942	2.297	.671	.450	-.269	-.250	.252	.288
PREF295	-.641	-1.132	4.156	.382	-.816	.823	.388	.876	.768	.476	.456	.034	.043
PREF296	1.404	-.188	3.791	.732	-1.198	1.566	1.009	.891	.794	.305	.402	.192	.079
PREF297	1.404	-.188	3.791	.732	-1.198	1.566	1.009	.891	.794	.816	.784	.000	.000
PREF298	1.560	-.401	2.256	1.370	-1.951	1.904	3.055	.585	.343	.447	.409	.048	.073
PREF299	1.560	1.235	2.676	.510	-.738	2.150	-1.725	.878	.770	.604	.640	.005	.002
PREF300	-2.601	.215	4.175	1.585	.543	-.994	-.823	.740	.547	.304	.316	.192	.175
PREF301	.483	.450	2.722	.225	-.084	.997	1.704	.572	.328	.249	.112	.289	.638
PREF302	.583	.733	4.134	.775	.042	1.334	1.715	.799	.639	.634	.647	.003	.002
PREF303	.971	-.521	2.632	-1.797	-2.557	1.345	.820	.716	.513	.467	.440	.038	.052
PREF304	.786	.462	4.455	-2.118	-.557	.507	.763	.802	.643	.650	.597	.002	.005
PREF305	1.913	2.946	3.501	-.765	.420	.674	.842	.782	.611	.482	.579	.031	.007
PREF306	1.274	2.961	4.117	-.330	.838	.241	1.145	.798	.637	.677	.690	.001	.001
PREF307	2.384	2.028	.502	-.918	-2.120	-2.460	-1.975	.718	.515	.380	.351	.099	.129
PREF308	2.735	2.128	1.332	.114	-.668	-.299	-1.655	.876	.767	.544	.501	.013	.024
PREF309	-.244	.791	2.629	-.994	.723	1.270	.391	.618	.382	.045	.101	.851	.671
PREF310	.841	1.233	2.131	.078	-.405	-.767	.303	.620	.384	.404	.418	.077	.067
PREF311	-.772	.075	2.370	-.886	-.712	-.658	-.974	.475	.226	.374	.427	.104	.061
PREF312	.782	.867	3.057	-1.120	.650	-1.124	-1.413	.734	.539	.584	.568	.007	.009
PREF313	.459	.162	6.389	-.285	-.169	.147	-.424	.958	.919	.842	.808	.000	.000
PREF314	1.570	-.619	.622	-2.353	-.232	-3.517	-2.043	.761	.579	.451	.399	.046	.082
PREF315	.828	1.872	2.406	-.247	.998	1.777	1.335	.591	.349	.460	.372	.041	.106

## Appendix 2: (continued)

PREF316	.242	.673	3.079	-.069	.016	-.126	.593	.593	.352	.165	.229	.488	.332
PREF317	.439	1.275	4.537	-.299	.026	-.127	1.073	.866	.750	.707	.712	.000	.000
PREF318	1.235	.915	1.185	-.078	.073	-.255	-.608	.405	.164	.279	.256	.234	.276
PREF319	1.413	.784	2.246	-.216	-.629	.888	1.838	.582	.339	.527	.537	.017	.015
PREF320	3.434	1.659	-.113	-1.425	-2.077	-1.278	-2.146	.770	.594	.548	.542	.012	.014
PREF321	1.750	.536	1.951	.155	.210	.489	-.014	.520	.270	.386	.459	.093	.042
PREF322	2.126	1.987	2.436	-.193	1.673	2.040	.526	.730	.532	.210	.327	.373	.159
PREF323	2.126	1.987	2.436	-.193	1.673	2.040	.526	.730	.532	.635	.688	.003	.001
PREF324	.634	-.062	3.052	.587	-.700	.079	-.015	.697	.485	.406	.370	.076	.109
PREF325	.886	-.003	3.670	-.269	.150	1.745	.827	.765	.585	.604	.562	.005	.010
PREF326	1.881	1.228	.782	-.356	-.580	-1.896	-3.203	.814	.662	.323	.314	.165	.177
PREF327	-.021	1.813	.061	2.531	-1.398	-1.963	-1.538	.640	.409	-.149	-.119	.532	.617
PREF328	.839	.433	2.825	1.492	.501	1.034	2.748	.782	.611	-.145	-.056	.541	.813
PREF329	1.685	1.527	1.586	.239	.189	2.169	2.422	.510	.260	-.049	-.120	.838	.614
PREF330	1.630	-.571	2.791	-1.445	-1.259	1.489	1.908	.730	.533	.396	.470	.084	.036
PREF331	.410	1.331	1.483	1.105	-.851	3.689	1.954	.677	.459	.445	.458	.049	.042
PREF332	.772	-.752	3.751	1.347	.079	1.774	1.672	.766	.587	.514	.535	.021	.015
PREF333	1.771	2.430	1.627	-.075	.606	2.914	2.389	.599	.359	.424	.424	.062	.063
PREF334	1.041	.836	2.417	-.448	.339	.707	1.131	.581	.337	.439	.465	.053	.039
PREF335	.995	1.128	4.548	-.452	-.614	1.110	1.452	.885	.783	.620	.525	.004	.017
PREF336	1.243	.930	4.709	-.040	.260	.088	.269	.753	.568	.715	.752	.000	.000
PREF337	2.852	.063	2.781	.511	-.674	3.599	2.188	.791	.626	.597	.591	.005	.006
PREF338	.557	-.613	4.085	.767	.155	2.164	1.737	.887	.786	.743	.690	.000	.001
PREF339	1.350	.581	3.793	1.066	.571	.988	1.071	.741	.549	.606	.608	.005	.004
PREF340	1.935	.224	3.403	-.596	-.284	1.990	1.102	.764	.584	.658	.675	.002	.001
PREF341	1.468	-.287	2.766	-.447	-.724	2.325	1.431	.794	.631	.647	.620	.002	.004
PREF342	1.382	-.371	4.239	-1.270	-.935	-.105	1.057	.760	.577	.579	.627	.007	.003
PREF343	-.438	.142	3.543	.487	-.832	.435	2.623	.671	.450	.671	.601	.001	.005
PREF344	-.501	-.390	7.364	.696	.875	1.196	.916	.948	.898	.948	.887	.000	.000
PREF345	-1.669	.324	4.755	.580	1.853	-.261	-.455	.820	.673	.820	.849	.000	.000
PREF346	-.183	-1.301	2.600	-2.120	-.944	.703	1.366	.743	.553	.743	.741	.000	.000
PREF347	2.001	.292	2.874	-.742	-.730	2.084	1.825	.835	.698	.835	.787	.000	.000
PREF348	1.198	.473	4.253	.815	.156	1.938	1.333	.789	.623	.789	.791	.000	.000
PREF349	.735	-1.291	3.861	.486	-.594	1.939	1.339	.691	.478	.691	.697	.001	.001
PREF350	2.350	-1.324	4.143	-1.767	-.869	1.632	1.380	.888	.788	.888	.792	.000	.000
PREF351	.794	.233	3.389	-2.183	-.627	.552	1.798	.871	.759	.871	.904	.000	.000
PREF352	.582	1.057	2.644	-.323	-.860	.905	1.722	.771	.595	.771	.782	.000	.000
PREF353	.970	.441	2.952	.685	-.514	.616	1.357	.522	.272	.522	.519	.018	.019
PREF354	.265	-.254	7.072	-.484	.012	-.378	-.526	.984	.969	.984	.883	.000	.000
PREF355	.495	.514	4.358	.122	-.151	.601	1.912	.803	.645	.803	.776	.000	.000

## Appendix 2: (continued)

<b>PREF356</b>	1.536	.934	2.913	-.369	-.541	1.930	2.003	.693	.480	.693	.703	.001	.001
<b>PREF357</b>	-.610	-.438	3.624	.823	.946	-.966	-.887	.683	.466	.683	.629	.001	.003
<b>PREF358</b>	.251	-.425	3.436	.966	.265	-.090	.433	.656	.431	.656	.629	.002	.003
<b>PREF359</b>	.241	1.871	2.993	-.538	.459	.767	1.419	.720	.518	.720	.710	.000	.000
<b>PREF360</b>	.347	1.418	3.296	.060	.422	.489	2.046	.690	.476	.690	.758	.001	.000
<b>PREF361</b>	1.625	1.994	3.845	-1.288	-.102	1.952	1.753	.695	.483	.695	.746	.001	.000
<b>PREF362</b>	1.688	.429	3.066	.749	-.565	1.162	1.185	.671	.450	.671	.707	.001	.000
<b>PREF363</b>	.905	.967	2.050	.130	-.007	-.323	-.539	.561	.315	.561	.580	.010	.007
<b>PREF364</b>	.160	-1.328	3.129	1.314	-.886	1.669	3.080	.735	.540	.735	.663	.000	.001
<b>PREF365</b>	-.345	.345	3.548	.153	.181	.910	2.702	.756	.572	.756	.692	.000	.001
<b>PREF366</b>	1.552	1.063	2.698	-1.660	-.947	1.551	1.653	.664	.441	.664	.724	.001	.000
<b>PREF367</b>	-1.199	-.716	2.547	-.476	.318	-.781	-1.866	.671	.450	.671	.586	.001	.007
<b>PREF368</b>	1.185	-.790	6.486	.242	-1.684	.511	.641	.932	.869	.932	.752	.000	.000
<b>PREF369</b>	1.717	-.979	-2.249	-.293	-1.223	2.033	.011	.553	.306	.553	.597	.011	.005
<b>PREF370</b>	1.259	-.810	-.693	.210	-.095	-.847	-1.967	.474	.225	.474	.405	.035	.076
<b>PREF371</b>	1.074	.324	3.977	.408	-.199	2.350	3.477	.804	.647	.804	.779	.000	.000
<b>PREF372</b>	.741	.068	4.103	-1.299	-.198	-.031	1.262	.859	.737	.859	.894	.000	.000
<b>PREF373</b>	.266	1.255	2.894	.285	.568	1.190	2.513	.668	.446	.668	.603	.001	.005
<b>PREF374</b>	-.710	.522	2.802	-.625	1.077	1.994	1.944	.780	.609	.780	.807	.000	.000
<b>PREF375</b>	1.012	.310	2.834	.584	-.612	2.285	2.018	.885	.783	.885	.889	.000	.000
<b>PREF376</b>	1.048	.282	2.013	-1.118	1.437	1.706	-.189	.693	.480	.693	.616	.001	.004
<b>PREF377</b>	-.127	-.014	2.706	-.543	-.110	.219	.187	.682	.466	.682	.701	.001	.001
<b>PREF378</b>	1.055	1.803	1.923	.399	1.249	1.759	2.412	.661	.436	.661	.600	.002	.005
<b>PREF379</b>	.282	.341	2.611	1.009	-.455	.791	1.113	.584	.341	.584	.631	.007	.003
<b>PREF380</b>	2.762	.633	3.052	-.601	.705	1.056	.724	.663	.439	.663	.669	.001	.001
<b>PREF381</b>	-.405	.567	2.610	.938	-.565	.012	-.776	.507	.257	.507	.563	.022	.010
<b>PREF382</b>	1.690	-.077	3.680	.269	-.191	2.452	2.461	.769	.592	.769	.770	.000	.000
<b>PREF383</b>	1.250	-.085	2.766	-.324	-1.186	1.305	2.893	.624	.389	.624	.537	.003	.015
<b>PREF384</b>	1.262	.113	2.822	.699	-1.005	3.738	3.183	.782	.611	.782	.747	.000	.000
<b>PREF385</b>	1.085	.377	1.791	.523	.213	-2.032	-2.491	.674	.454	.674	.728	.001	.000
<b>PREF386</b>	-.293	1.136	5.822	.066	.176	.206	.590	.908	.825	.908	.821	.000	.000
<b>PREF387</b>	2.195	-.421	1.987	2.502	-1.765	3.549	3.780	.768	.590	.768	.768	.000	.000
<b>PREF388</b>	2.096	1.015	3.133	.035	-.372	1.661	1.810	.672	.451	.672	.669	.001	.001
<b>PREF389</b>	.951	.745	2.018	.150	.266	2.560	3.128	.714	.509	.714	.689	.000	.001
<b>PREF390</b>	2.420	1.568	3.782	-.617	.285	1.829	1.668	.790	.624	.790	.817	.000	.000
<b>PREF391</b>	-1.076	-1.162	4.865	.191	-1.118	.197	.853	.886	.785	.886	.872	.000	.000
<b>PREF392</b>	.663	-1.401	3.446	.122	-.769	1.782	1.489	.738	.544	.738	.744	.000	.000
<b>PREF393</b>	.336	.941	3.405	.706	.957	1.890	1.765	.793	.630	.793	.803	.000	.000
<b>PREF394</b>	1.908	1.240	2.717	1.112	.152	2.645	2.248	.802	.643	.802	.815	.000	.000
<b>PREF395</b>	1.191	-.016	5.589	-.500	-.559	.918	.604	.893	.797	.893	.771	.000	.000

## Appendix 2: (continued)

<b>PREF396</b>	1.880	1.581	1.541	-1.278	-1.314	-.130	-.599	.600	.360	.600	.582	.005	.007
<b>PREF397</b>	1.832	.129	1.863	.485	-3.025	2.466	2.360	.640	.409	.640	.626	.002	.003
<b>PREF398</b>	1.151	-1.208	3.415	-.157	-1.094	.608	.593	.770	.593	.770	.737	.000	.000
<b>PREF399</b>	.771	.166	4.612	.403	-.228	.571	.850	.827	.683	.827	.790	.000	.000
<b>PREF400</b>	-.239	.396	2.458	1.349	.306	1.434	1.434	.651	.424	.651	.628	.002	.003

Source: SPSS Version 19

## Appendix 3: Tukey HSD

Dependent Variable	(I) Ward Method	(J) Ward Method	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
$\beta_1$	1	2	.192116	.120143	.247	-.09067	.47490
		3*	-.805047	.149373	.000	-1.15663	-.45347
	2	1	-.192116	.120143	.247	-.47490	.09067
		3*	-.997163	.170399	.000	-1.39823	-.59609
	3	1*	.805047	.149373	.000	.45347	1.15663
		2*	.997163	.170399	.000	.59609	1.39823
$\beta_2$	1	2*	-.415645	.128301	.004	-.71763	-.11366
		3*	-.571841	.159516	.001	-.94729	-.19639
	2	1*	.415645	.128301	.004	.11366	.71763
		3	-.156196	.181969	.667	-.58450	.27210
	3	1*	.571841	.159516	.001	.19639	.94729
		2	.156196	.181969	.667	-.27210	.58450
$\beta_3$	1	2*	1.771522	.150053	.000	1.41834	2.12470
		3*	.861490	.186559	.000	.42239	1.30059
	2	1*	-1.771522	.150053	.000	-2.12470	-1.41834
		3*	-.910032	.212820	.000	-1.41095	-.40912
	3	1*	-.861490	.186559	.000	-1.30059	-.42239
		2*	.910032	.212820	.000	.40912	1.41095
$\beta_4$	1	2	.117954	.113205	.551	-.14850	.38440
		3*	-.493388	.140747	.001	-.82466	-.16211
	2	1	-.117954	.113205	.551	-.38440	.14850
		3*	-.611343	.160559	.000	-.98925	-.23344
	3	1*	.493388	.140747	.001	.16211	.82466
		2*	.611343	.160559	.000	.23344	.98925

## Appendix 3: (continued)

$\beta_5$	1	2*	-.355922	.125078	.013	-.65032	-.06153
		3	.008454	.155509	.998	-.35757	.37448
	2	1*	.355922	.125078	.013	.06153	.65032
		3	.364376	.177398	.101	-.05317	.78192
	3	1	-.008454	.155509	.998	-.37448	.35757
		2	-.364376	.177398	.101	-.78192	.05317
$\beta_6$	1	2*	1.553870	.111320	.000	1.29186	1.81588
		3*	-1.536548	.138403	.000	-1.86231	-1.21079
	2	1*	-1.553870	.111320	.000	-1.81588	-1.29186
		3*	-3.090418	.157885	.000	-3.46203	-2.71880
	3	1*	1.536548	.138403	.000	1.21079	1.86231
		2*	3.090418	.157885	.000	2.71880	3.46203
$\beta_7$	1	2*	1.714580	.117981	.000	1.43689	1.99227
		3*	-1.485219	.146684	.000	-1.83047	-1.13997
	2	1*	-1.714580	.117981	.000	-1.99227	-1.43689
		3*	-3.199799	.167332	.000	-3.59365	-2.80595
	3	1*	1.485219	.146684	.000	1.13997	1.83047
		2*	3.199799	.167332	.000	2.80595	3.59365

\*. The mean difference is significant at the .05 level.

Source: SPSS Version 19

## Appendix 4: The Part-Worth Utilities of Clusters

## Appendix 4.1: The Part-Worth Utilities of Cluster 1

	Cleaning Ability		Sudsing Ability		Skin Care		Fragrance		Density		Price		
	a <sub>11</sub>	a <sub>12</sub>	a <sub>21</sub>	a <sub>22</sub>	a <sub>31</sub>	a <sub>32</sub>	a <sub>41</sub>	a <sub>42</sub>	a <sub>51</sub>	a <sub>52</sub>	a <sub>61</sub>	a <sub>62</sub>	a <sub>63</sub>
PREF1	.502	-.502	.019	-.019	1.646	-1.646	.539	-.539	-.388	.388	.465	.344	-.810
PREF2	.246	-.246	.303	-.303	2.331	-2.331	-.279	.279	.105	-.105	.489	-.137	-.352
PREF3	-.407	.407	.474	-.474	2.040	-2.040	.152	-.152	.340	-.340	.678	.195	-.874
PREF5	-.024	.024	-.776	.776	1.184	-1.184	-1.008	1.008	-.198	.198	.351	.028	-.380
PREF6	.595	-.595	-.042	.042	1.135	-1.135	.182	-.182	-.208	.208	.615	.310	-.925
PREF11	-.053	.053	.151	-.151	1.230	-1.230	.221	-.221	-.295	.295	.338	.113	-.450
PREF12	-.056	.056	-1.049	1.049	1.379	-1.379	-.087	.087	-.204	.204	.562	.997	-1.560
PREF13	-.453	.453	.845	-.845	1.702	-1.702	-.006	.006	.532	-.532	.726	-.290	-.435
PREF14	1.107	-1.107	-.007	.007	1.328	-1.328	.182	-.182	-.309	.309	-.114	.131	-.018
PREF17	.311	-.311	-.255	.255	1.400	-1.400	-.075	.075	-.133	.133	.550	.030	-.579
PREF18	.518	-.518	-.190	.190	1.905	-1.905	-.170	.170	-.743	.743	.573	.963	-1.536
PREF19	-.348	.348	.467	-.467	1.710	-1.710	.221	-.221	.442	-.442	.126	.367	-.494

## Appendix 4.1: (continued)

<b>PREF20</b>	-.173	.173	.173	-.173	1.774	-1.774	.077	-.077	.091	-.091	-.294	1.498	-1.204
<b>PREF22</b>	.199	-.199	.074	-.074	1.928	-1.928	-.275	.275	-.157	.157	.150	.329	-.478
<b>PREF23</b>	.646	-.646	-.425	.425	1.113	-1.113	-.269	.269	-.285	.285	.506	.552	-1.059
<b>PREF28</b>	.419	-.419	.591	-.591	1.901	-1.901	-.463	.463	.192	-.192	-.077	.196	-.118
<b>PREF30</b>	.568	-.568	.680	-.680	1.273	-1.273	.327	-.327	-.105	.105	.763	-.066	-.698
<b>PREF32</b>	.188	-.188	-.966	.966	1.129	-1.129	.127	-.127	-.218	.218	.879	-.098	-.781
<b>PREF34</b>	.295	-.295	-.264	.264	1.497	-1.497	-.598	.598	-.430	.430	.071	.729	-.800
<b>PREF35</b>	.360	-.360	1.059	-1.059	1.965	-1.965	.289	-.289	1.035	-1.035	.213	.727	-.940
<b>PREF36</b>	.249	-.249	-.774	.774	1.542	-1.542	.931	-.931	.060	-.060	1.369	-.272	-1.096
<b>PREF38</b>	-.140	.140	-2.373	2.373	1.088	-1.088	.217	-.217	-.010	.010	.405	1.484	-1.888
<b>PREF39</b>	-.094	.094	-.080	.080	.789	-.789	-.102	.102	.080	-.080	1.136	-.087	-1.048
<b>PREF40</b>	.091	-.091	.262	-.262	1.868	-1.868	-.451	.451	-.054	.054	-.096	.264	-.169
<b>PREF42</b>	.162	-.162	.545	-.545	1.751	-1.751	.075	-.075	-.042	.042	-.277	.556	-.280
<b>PREF44</b>	.497	-.497	.204	-.204	1.387	-1.387	-.340	.340	-.799	.799	-.096	.925	-.828
<b>PREF46</b>	.640	-.640	.212	-.212	1.461	-1.461	-.876	.876	-.941	.941	-.183	.885	-.702
<b>PREF47</b>	.205	-.205	.368	-.368	2.262	-2.262	-.318	.318	.179	-.179	-.219	-.482	.701
<b>PREF48</b>	.389	-.389	.427	-.427	2.595	-2.595	-.376	.376	-.035	.035	.187	.109	-.297
<b>PREF51</b>	1.009	-1.009	.424	-.424	2.477	-2.477	.176	-.176	.191	-.191	-.383	.383	.001
<b>PREF53</b>	.561	-.561	.165	-.165	1.968	-1.968	-.080	.080	.709	-.709	-.440	-.323	.762
<b>PREF55</b>	.827	-.827	.198	-.198	2.306	-2.306	.096	-.096	.329	-.329	.635	.334	-.970
<b>PREF57</b>	-1.389	1.389	-.796	.796	1.023	-1.023	.696	-.696	.720	-.720	.795	.359	-1.155
<b>PREF62</b>	.361	-.361	-.414	.414	1.519	-1.519	.245	-.245	-.163	.163	.210	.670	-.880
<b>PREF63</b>	.321	-.321	.179	-.179	2.504	-2.504	.163	-.163	-.287	.287	.499	.268	-.767
<b>PREF64</b>	.289	-.289	.142	-.142	1.770	-1.770	-.791	.791	.008	-.008	1.078	-.660	-.419
<b>PREF66</b>	.943	-.943	.258	-.258	1.048	-1.048	.569	-.569	-.619	.619	.453	.465	-.919
<b>PREF70</b>	.012	-.012	.104	-.104	1.707	-1.707	.356	-.356	-.378	.378	-.271	1.117	-.846
<b>PREF71</b>	.516	-.516	-.122	.122	1.286	-1.286	-.298	.298	-.388	.388	.828	-.834	.005
<b>PREF72</b>	.312	-.312	.235	-.235	2.188	-2.188	-.285	.285	.080	-.080	-.582	.248	.335
<b>PREF74</b>	1.169	-1.169	-.466	.466	.610	-.610	-.890	.890	-.961	.961	-.203	.903	-.700
<b>PREF75</b>	1.133	-1.133	.214	-.214	1.779	-1.779	-.167	.167	-.114	.114	-.189	.104	.085
<b>PREF77</b>	.037	-.037	-.329	.329	.897	-.897	.122	-.122	.090	-.090	.607	.800	-1.406
<b>PREF79</b>	.547	-.547	.430	-.430	1.425	-1.425	-.387	.387	-.099	.099	-.153	1.074	-.920
<b>PREF80</b>	1.155	-1.155	.052	-.052	.981	-.981	-.839	.839	-.919	.919	.517	.325	-.843
<b>PREF82</b>	.605	-.605	.085	-.085	1.851	-1.851	-.368	.368	-.448	.448	.339	-.273	-.067
<b>PREF83</b>	.042	-.042	-.423	.423	2.008	-2.008	-.359	.359	-.369	.369	.223	.724	-.947
<b>PREF84</b>	.362	-.362	.022	-.022	2.331	-2.331	.119	-.119	-.223	.223	.087	1.332	-1.418
<b>PREF87</b>	.824	-.824	-.030	.030	1.707	-1.707	-.389	.389	-.748	.748	-.004	1.554	-1.551
<b>PREF90</b>	1.084	-1.084	.093	-.093	1.522	-1.522	-.611	.611	-.966	.966	.321	1.404	-1.725
<b>PREF91</b>	1.327	-1.327	.440	-.440	1.897	-1.897	-.316	.316	-.379	.379	.670	.022	-.691
<b>PREF92</b>	1.073	-1.073	.090	-.090	1.491	-1.491	-.556	.556	-.902	.902	.380	1.464	-1.843

## Appendix 4.1: (continued)

PREF93	.685	-.685	-.286	.286	1.788	-1.788	-.940	.940	-.157	.157	.119	-.159	.040
PREF97	-.122	.122	.358	-.358	1.462	-1.462	-.312	.312	.138	-.138	.789	.186	-.974
PREF105	.558	-.558	.963	-.963	2.009	-2.009	-.473	.473	-.397	.397	.584	.195	-.780
PREF106	.222	-.222	-.340	.340	1.131	-1.131	.547	-.547	-.445	.445	.623	.597	-1.221
PREF107	.777	-.777	.162	-.162	1.772	-1.772	.270	-.270	-.155	.155	.266	-.002	-.265
PREF108	-.116	.116	-.043	.043	2.186	-2.186	.421	-.421	.095	-.095	-.154	.956	-.803
PREF110	1.313	-1.313	.272	-.272	2.564	-2.564	-.060	.060	-.563	.563	.481	.197	-.677
PREF111	.730	-.730	.186	-.186	2.062	-2.062	.015	-.015	-.103	.103	.492	.043	-.536
PREF114	-.137	.137	-.521	.521	.981	-.981	-.235	.235	.160	-.160	.093	.298	-.392
PREF116	.141	-.141	-.218	.218	.888	-.888	-.155	.155	.613	-.613	-.391	.825	-.434
PREF118	.080	-.080	-.986	.986	1.443	-1.443	.209	-.209	-.846	.846	.861	-.451	-.411
PREF120	.300	-.300	-.962	.962	1.435	-1.435	1.485	-1.485	-.004	.004	.634	.333	-.968
PREF122	1.035	-1.035	.286	-.286	1.063	-1.063	.137	-.137	-.508	.508	.124	.217	-.340
PREF123	.934	-.934	.561	-.561	.734	-.734	-.399	.399	-.700	.700	1.006	-.078	-.927
PREF126	.657	-.657	-.071	.071	1.710	-1.710	.021	-.021	.087	-.087	.735	.160	-.895
PREF128	1.060	-1.060	.132	-.132	1.698	-1.698	.294	-.294	.012	-.012	.163	.001	-.164
PREF129	.469	-.469	.451	-.451	1.665	-1.665	-.105	.105	.775	-.775	.715	-.153	-.562
PREF130	.653	-.653	.315	-.315	1.582	-1.582	.332	-.332	.048	-.048	.747	.075	-.823
PREF131	.688	-.688	-.235	.235	1.399	-1.399	.433	-.433	-.446	.446	1.714	-.988	-.727
PREF134	-.016	.016	.111	-.111	2.393	-2.393	-.485	.485	-.133	.133	-.361	.923	-.563
PREF137	.225	-.225	1.044	-1.044	1.880	-1.880	.370	-.370	1.055	-1.055	.841	-.651	-.190
PREF139	-.447	.447	.491	-.491	.601	-.601	.310	-.310	.268	-.268	.110	.471	-.582
PREF140	.813	-.813	.828	-.828	1.758	-1.758	.001	-.001	-.325	.325	-.059	.676	-.616
PREF144	.230	-.230	.571	-.571	1.982	-1.982	.647	-.647	.627	-.627	.108	.886	-.994
PREF146	.688	-.688	-.235	.235	1.399	-1.399	.433	-.433	-.446	.446	1.714	-.988	-.727
PREF147	1.163	-1.163	.626	-.626	1.586	-1.586	-.274	.274	-.334	.334	.846	-.666	-.180
PREF148	.959	-.959	.577	-.577	1.143	-1.143	-.315	.315	-.174	.174	.557	.009	-.565
PREF149	.222	-.222	-.009	.009	1.661	-1.661	.412	-.412	-.353	.353	.712	.478	-1.190
PREF150	.497	-.497	.307	-.307	1.755	-1.755	.804	-.804	-.782	.782	-.310	1.395	-1.085
PREF151	-.399	.399	-.006	.006	1.560	-1.560	-.271	.271	-.080	.080	.282	.186	-.467
PREF154	.081	-.081	-.533	.533	.682	-.682	-.023	.023	-.759	.759	.736	.632	-1.367
PREF155	.498	-.498	.124	-.124	.575	-.575	.433	-.433	.093	-.093	.049	1.016	-1.064
PREF156	.374	-.374	-.099	.099	.982	-.982	-.148	.148	-.514	.514	-.154	.978	-.823
PREF157	1.083	-1.083	.547	-.547	.932	-.932	.967	-.967	-.648	.648	.926	-.089	-.838
PREF158	.081	-.081	.080	-.080	.763	-.763	.331	-.331	.047	-.047	-.013	1.217	-1.205
PREF160	.606	-.606	.743	-.743	1.718	-1.718	-.884	.884	-.559	.559	.053	.289	-.341
PREF162	-.152	.152	.355	-.355	1.412	-1.412	.727	-.727	.961	-.961	-.568	1.914	-1.345
PREF163	.329	-.329	.216	-.216	1.257	-1.257	.414	-.414	.075	-.075	.567	.291	-.858
PREF164	-1.168	1.168	.155	-.155	1.004	-1.004	.077	-.077	-.054	.054	.379	-.200	-.178
PREF165	.390	-.390	-.135	.135	2.210	-2.210	.305	-.305	-.032	.032	.796	.526	-1.323



## Appendix 4.1: (continued)

PREF166	.573	-.573	.957	-.957	1.874	-1.874	-.390	.390	-.051	.051	.264	.424	-.687
PREF167	.457	-.457	.697	-.697	2.111	-2.111	.020	-.020	.257	-.257	.606	.419	-1.025
PREF168	.071	-.071	.055	-.055	1.613	-1.613	.232	-.232	-.795	.795	-.550	2.087	-1.536
PREF169	.592	-.592	.170	-.170	1.735	-1.735	.040	-.040	-.184	.184	.518	.445	-.962
PREF173	.435	-.435	-.084	.084	1.906	-1.906	.545	-.545	.398	-.398	.959	-.139	-.819
PREF174	.358	-.358	.102	-.102	1.509	-1.509	.364	-.364	.018	-.018	.406	.815	-1.221
PREF175	.436	-.436	.079	-.079	1.075	-1.075	.847	-.847	-.686	.686	1.871	-.918	-.954
PREF176	.912	-.912	-.240	.240	2.494	-2.494	.147	-.147	-.404	.404	.495	.909	-1.403
PREF177	.702	-.702	.728	-.728	2.103	-2.103	.462	-.462	.437	-.437	.398	-.308	-.089
PREF178	.712	-.712	-.302	.302	1.669	-1.669	.073	-.073	-.227	.227	.543	.138	-.681
PREF180	.776	-.776	.711	-.711	1.837	-1.837	-.206	.206	.357	-.357	.659	-.235	-.425
PREF182	.484	-.484	.201	-.201	1.636	-1.636	-.417	.417	-.236	.236	.960	-.034	-.927
PREF183	.438	-.438	.088	-.088	2.422	-2.422	-.473	.473	-.495	.495	-.595	.718	-1.124
PREF184	.720	-.720	.283	-.283	1.097	-1.097	-.093	.093	-.585	.585	-.063	.152	-.090
PREF186	.219	-.219	-.076	.076	3.013	-3.013	.086	-.086	.022	-.022	.185	-.338	.153
PREF187	.435	-.435	-.084	.084	1.906	-1.906	.545	-.545	.398	-.398	.959	-.139	-.819
PREF189	.108	-.108	.110	-.110	1.626	-1.626	-.807	.807	-.574	.574	.072	-.454	.383
PREF191	.480	-.480	.043	-.043	1.635	-1.635	-.383	.383	.009	-.009	.378	.646	-1.025
PREF192	.563	-.563	-.268	.268	2.701	-2.701	-.093	.093	-1.068	1.068	.353	.325	-.677
PREF193	.194	-.194	.396	-.396	1.978	-1.978	.927	-.927	.876	-.876	.502	.481	-.983
PREF194	-.224	.224	.994	-.994	.997	-.997	-.144	.144	.803	-.803	.222	.599	-.822
PREF195	-.188	.188	1.054	-1.054	1.006	-1.006	-.143	.143	.919	-.919	.243	.774	-1.016
PREF196	.252	-.252	-.126	.126	1.025	-1.025	-.093	.093	-.106	.106	.685	-.013	-.673
PREF197	.047	-.047	-.071	.071	1.230	-1.230	-.108	.108	.035	-.035	.647	.019	-.666
PREF198	.168	-.168	-.401	.401	1.407	-1.407	-.192	.192	-.168	.168	-.012	.036	-.024
PREF199	.096	-.096	-.476	.476	1.651	-1.651	-.475	.475	-.450	.450	.273	.367	-.640
PREF205	.438	-.438	.410	-.410	1.739	-1.739	-.305	.305	-.727	.727	.496	.387	-.884
PREF206	.621	-.621	.117	-.117	1.983	-1.983	.369	-.369	-.476	.476	.014	1.109	-1.124
PREF209	.255	-.255	.630	-.630	2.264	-2.264	-.005	.005	-.095	.095	.453	.970	-1.424
PREF215	.888	-.888	.989	-.989	1.784	-1.784	-.263	.263	.061	-.061	.178	-.125	-.054
PREF216	.911	-.911	.583	-.583	1.897	-1.897	-.037	.037	-.002	.002	.718	-.162	-.555
PREF220	.137	-.137	-.437	.437	1.392	-1.392	.500	-.500	-.408	.408	1.034	.032	-1.067
PREF222	.159	-.159	.103	-.103	1.506	-1.506	-.115	.115	.158	-.158	-.353	1.904	-1.550
PREF225	-.045	.045	.129	-.129	2.291	-2.291	.885	-.885	.401	-.401	.681	.513	-1.193
PREF226	.189	-.189	.476	-.476	2.047	-2.047	1.112	-1.112	.849	-.849	.554	.408	-.961
PREF227	.769	-.769	-.247	.247	2.529	-2.529	-.246	.246	-1.029	1.029	.315	.410	-.725
PREF228	.579	-.579	.387	-.387	1.432	-1.432	-.513	.513	-.369	.369	.878	.686	-1.564
PREF230	.809	-.809	.309	-.309	2.480	-2.480	-.521	.521	-.306	.306	.606	.573	-1.179
PREF231	.332	-.332	.090	-.090	1.988	-1.988	-.253	.253	-.348	.348	-.147	.315	-.168

## Appendix 4.1: (continued)

PREF235	.449	-.449	.333	-.333	1.934	-1.934	.003	-.003	-.535	.535	.781	.455	-1.236
PREF238	.353	-.353	.496	-.496	1.985	-1.985	-.201	.201	.069	-.069	.016	.813	-.829
PREF240	.618	-.618	.143	-.143	2.795	-2.795	.270	-.270	-.274	.274	.075	.499	-.574
PREF241	.361	-.361	.104	-.104	1.946	-1.946	.139	-.139	-.016	.016	.542	.424	-.965
PREF242	.574	-.574	.277	-.277	1.302	-1.302	.325	-.325	-.479	.479	.822	-.589	-.234
PREF243	.599	-.599	.328	-.328	1.565	-1.565	.197	-.197	-.159	.159	.368	.340	-.709
PREF244	.241	-.241	.677	-.677	2.577	-2.577	-.043	.043	-.055	.055	1.036	.351	-1.387
PREF245	.103	-.103	-.030	.030	2.246	-2.246	.355	-.355	.148	-.148	.153	.607	-.759
PREF246	.380	-.380	.452	-.452	1.532	-1.532	.487	-.487	.699	-.699	.444	.186	-.629
PREF247	-.061	.061	.175	-.175	1.276	-1.276	.642	-.642	.207	-.207	.528	.413	-.941
PREF248	.327	-.327	.106	-.106	2.259	-2.259	.234	-.234	-.168	.168	.047	.442	-.489
PREF249	.635	-.635	-.627	.627	1.755	-1.755	-.111	.111	-.493	.493	.258	.127	-.385
PREF251	.567	-.567	.039	-.039	1.832	-1.832	.237	-.237	-.347	.347	.715	.460	-1.175
PREF252	.353	-.353	.124	-.124	1.386	-1.386	.462	-.462	.324	-.324	.065	.452	-.518
PREF253	.409	-.409	.321	-.321	3.052	-3.052	-.737	.737	-.640	.640	-.183	-.322	.505
PREF256	.688	-.688	.869	-.869	2.071	-2.071	-.130	.130	.170	-.170	.435	.999	-1.433
PREF257	.320	-.320	.293	-.293	2.280	-2.280	-.263	.263	-.116	.116	-.383	.575	-.192
PREF258	.320	-.320	.293	-.293	2.280	-2.280	-.263	.263	-.116	.116	-.383	.575	-.192
PREF265	.902	-.902	1.358	-1.358	1.529	-1.529	-.461	.461	.115	-.115	1.607	-.316	-1.290
PREF266	.457	-.457	.697	-.697	2.111	-2.111	.020	-.020	.257	-.257	.606	.419	-1.025
PREF268	.759	-.759	.471	-.471	1.359	-1.359	-.815	.815	-.346	.346	.545	.410	-.954
PREF270	.996	-.996	.650	-.650	1.192	-1.192	-.387	.387	-.072	.072	.243	.684	-.927
PREF272	.920	-.920	-.016	.016	1.339	-1.339	.147	-.147	-.620	.620	1.004	-.139	-.865
PREF273	.275	-.275	.496	-.496	2.386	-2.386	.310	-.310	.500	-.500	-.246	.282	-.035
PREF274	1.207	-1.207	.691	-.691	1.407	-1.407	-.446	.446	-.320	.320	.940	.001	-.941
PREF275	.759	-.759	.471	-.471	1.359	-1.359	-.815	.815	-.346	.346	.545	.410	-.954
PREF277	.078	-.078	.600	-.600	1.860	-1.860	.048	-.048	-.111	.111	.182	.968	-1.150
PREF280	-.027	.027	-.142	.142	1.166	-1.166	.356	-.356	.048	-.048	-.269	.881	-.612
PREF282	.269	-.269	.785	-.785	1.971	-1.971	.165	-.165	-.530	.530	1.177	.368	-1.545
PREF283	.082	-.082	.118	-.118	2.140	-2.140	.557	-.557	-.595	.595	1.050	.167	-1.216
PREF284	.849	-.849	.021	-.021	1.384	-1.384	-.165	.165	-.061	.061	.076	-.110	.033
PREF285	.849	-.849	.021	-.021	1.384	-1.384	-.165	.165	-.061	.061	.076	-.110	.033
PREF286	.437	-.437	-.078	.078	2.145	-2.145	.140	-.140	-.108	.108	.626	.463	-1.090
PREF287	.618	-.618	.143	-.143	2.795	-2.795	.270	-.270	-.274	.274	.075	.499	-.574
PREF295	-.321	.321	-.566	.566	2.078	-2.078	.191	-.191	-.408	.408	.419	-.016	-.404
PREF297	.702	-.702	-.094	.094	1.896	-1.896	.366	-.366	-.599	.599	.708	.151	-.858
PREF299	.780	-.780	.618	-.618	1.338	-1.338	.255	-.255	-.369	.369	2.008	-1.867	-.142
PREF302	.292	-.292	.367	-.367	2.067	-2.067	.388	-.388	.021	-.021	.318	.699	-1.016
PREF303	.486	-.486	-.261	.261	1.316	-1.316	-.899	.899	-1.279	1.279	.623	.098	-.722

## Appendix 4.1: (continued)

PREF304	.393	-.393	.231	-.231	2.228	-2.228	-1.059	1.059	-.279	.279	.084	.340	-.423
PREF305	.957	-.957	1.473	-1.473	1.751	-1.751	-.383	.383	.210	-.210	.169	.337	-.505
PREF306	.637	-.637	1.481	-1.481	2.059	-2.059	-.165	.165	.419	-.419	-.221	.683	-.462
PREF309	-.122	.122	.396	-.396	1.315	-1.315	-.497	.497	.362	-.362	.716	-.163	-.554
PREF313	.230	-.230	.081	-.081	3.195	-3.195	-.143	.143	-.085	.085	.239	-.332	.092
PREF317	.220	-.220	.638	-.638	2.269	-2.269	-.150	.150	.013	-.013	-.442	.758	-.315
PREF319	.707	-.707	.392	-.392	1.123	-1.123	-.108	.108	-.315	.315	-.021	.929	-.909
PREF321	.875	-.875	.268	-.268	.976	-.976	.078	-.078	.105	-.105	.331	-.172	-.158
PREF325	.443	-.443	-.002	.002	1.835	-1.835	-.135	.135	.075	-.075	.888	-.030	-.857
PREF330	.815	-.815	-.286	.286	1.396	-1.396	-.723	.723	-.630	.630	.357	.776	-1.132
PREF332	.386	-.386	-.376	.376	1.876	-1.876	.674	-.674	.040	-.040	.625	.523	-1.149
PREF335	.498	-.498	.564	-.564	2.274	-2.274	-.226	.226	-.307	.307	.256	.598	-.854
PREF336	.622	-.622	.465	-.465	2.355	-2.355	-.020	.020	.130	-.130	-.031	.150	-.119
PREF338	.279	-.279	-.307	.307	2.043	-2.043	.384	-.384	.078	-.078	.864	.437	-1.300
PREF339	.675	-.675	.291	-.291	1.897	-1.897	.533	-.533	.286	-.286	.302	.385	-.686
PREF340	.968	-.968	.112	-.112	1.702	-1.702	-.298	.298	-.142	.142	.959	.071	-1.031
PREF341	.734	-.734	-.144	.144	1.383	-1.383	-.224	.224	-.362	.362	1.073	.179	-1.252
PREF342	.691	-.691	-.186	.186	2.120	-2.120	-.635	.635	-.468	.468	-.422	.740	-.317
PREF343	-.219	.219	.071	-.071	1.772	-1.772	.244	-.244	-.416	.416	-.584	1.604	-1.019
PREF344	-.251	.251	-.195	.195	3.682	-3.682	.348	-.348	.438	-.438	.492	.212	-.704
PREF346	-.092	.092	-.651	.651	1.300	-1.300	-1.060	1.060	-.472	.472	.013	.676	-.690
PREF347	1.001	-1.001	.146	-.146	1.437	-1.437	-.371	.371	-.365	.365	.781	.522	-1.303
PREF348	.599	-.599	.237	-.237	2.127	-2.127	.408	-.408	.078	-.078	.848	.243	-1.090
PREF349	.368	-.368	-.646	.646	1.931	-1.931	.243	-.243	-.297	.297	.846	.246	-1.093
PREF350	1.175	-1.175	-.662	.662	2.072	-2.072	-.884	.884	-.435	.435	.628	.376	-1.004
PREF351	.397	-.397	.117	-.117	1.695	-1.695	-1.092	1.092	-.314	.314	-.231	1.015	-.783
PREF352	.291	-.291	.529	-.529	1.322	-1.322	-.162	.162	-.430	.430	.029	.846	-.876
PREF353	.485	-.485	.221	-.221	1.476	-1.476	.343	-.343	-.257	.257	-.042	.699	-.658
PREF354	.133	-.133	-.127	.127	3.536	-3.536	-.242	.242	.006	-.006	-.077	-.225	.301
PREF355	.248	-.248	.257	-.257	2.179	-2.179	.061	-.061	-.076	.076	-.237	1.074	-.838
PREF359	.121	-.121	.936	-.936	1.497	-1.497	-.269	.269	.230	-.230	.038	.690	-.729
PREF360	.174	-.174	.709	-.709	1.648	-1.648	.030	-.030	.211	-.211	-.356	1.201	-.845
PREF361	.813	-.813	.997	-.997	1.923	-1.923	-.644	.644	-.051	.051	.717	.518	-1.235
PREF362	.844	-.844	.215	-.215	1.533	-1.533	.375	-.375	-.283	.283	.380	.403	-.782
PREF364	.080	-.080	-.664	.664	1.565	-1.565	.657	-.657	-.443	.443	.086	1.497	-1.583
PREF365	-.173	.173	.173	-.173	1.774	-1.774	.077	-.077	.091	-.091	-.294	1.498	-1.204
PREF366	.776	-.776	.532	-.532	1.349	-1.349	-.830	.830	-.474	.474	.483	.585	-1.068
PREF368	.593	-.593	-.395	.395	3.243	-3.243	.121	-.121	-.842	.842	.127	.257	-.384
PREF372	.371	-.371	.034	-.034	2.052	-2.052	-.650	.650	-.099	.099	-.441	.852	-.410
PREF373	.133	-.133	.628	-.628	1.447	-1.447	.143	-.143	.284	-.284	-.044	1.279	-1.234

**Appendix 4.1:** (continued)

<b>PREF374</b>	-.355	.355	.261	-.261	1.401	-1.401	-.313	.313	.539	-.539	.681	.631	-1.313
<b>PREF375</b>	.506	-.506	.155	-.155	1.417	-1.417	.292	-.292	-.306	.306	.851	.584	-1.434
<b>PREF377</b>	-.064	.064	-.007	.007	1.353	-1.353	-.272	.272	-.055	.055	.084	.052	-.135
<b>PREF379</b>	.141	-.141	.171	-.171	1.306	-1.306	.505	-.505	-.228	.228	.156	.478	-.635
<b>PREF380</b>	1.381	-1.381	.317	-.317	1.526	-1.526	-.301	.301	.353	-.353	.463	.131	-.593
<b>PREF383</b>	.625	-.625	-.043	.043	1.383	-1.383	-.162	.162	-.593	.593	-.094	1.494	-1.399
<b>PREF386</b>	-.147	.147	.568	-.568	2.911	-2.911	.033	-.033	.088	-.088	-.059	.325	-.265
<b>PREF390</b>	1.210	-1.210	.784	-.784	1.891	-1.891	-.309	.309	.143	-.143	.663	.502	-1.166
<b>PREF391</b>	-.538	.538	-.581	.581	2.433	-2.433	.096	-.096	-.559	.559	-.153	.503	-.350
<b>PREF392</b>	.332	-.332	-.701	.701	1.723	-1.723	.061	-.061	-.385	.385	.692	.399	-1.090
<b>PREF393</b>	.168	-.168	.471	-.471	1.703	-1.703	.353	-.353	.479	-.479	.672	.547	-1.218
<b>PREF395</b>	.596	-.596	-.008	.008	2.795	-2.795	-.250	.250	-.280	.280	.411	.097	-.507
<b>PREF398</b>	.576	-.576	-.604	.604	1.708	-1.708	-.079	.079	-.547	.547	.208	.193	-.400
<b>PREF399</b>	.386	-.386	.083	-.083	2.306	-2.306	.202	-.202	-.114	.114	.097	.376	-.474
<b>PREF400</b>	-.120	.120	.198	-.198	1.229	-1.229	.675	-.675	.153	-.153	.478	.478	-.956
<b>Total</b>	92.5	-92.5	33.4	-33.4	389.7	-389.7	-4.8	4.8	-29.6	29.6	80.1	86.9	-167.0
<b>Mean</b>	.411	-.411	.148	-.148	1.732	-1.732	-.021	.021	-.132	.132	.356	.386	-.742
<b>Ranges</b>	0.823		0.297		3.464		-0.043		-0.263		1.098		
<b>Rel Impo</b>	15.30%		5.52%		64.44%		-0.79%		-4.90%		20.43%		

**Appendix 4.2:** The Part-Worth Utilities of Cluster 2

	Cleaning Ability		Sudsing Ability		Skin Care		Fragrance		Density		Price		
	a <sub>11</sub>	a <sub>12</sub>	a <sub>21</sub>	a <sub>22</sub>	a <sub>31</sub>	a <sub>32</sub>	a <sub>41</sub>	a <sub>42</sub>	a <sub>51</sub>	a <sub>52</sub>	a <sub>61</sub>	a <sub>62</sub>	a <sub>63</sub>
<b>PREF4</b>	1.012	-1.012	1.134	-1.134	1.149	-1.149	-.235	.235	.121	-.121	-.075	-.592	.667
<b>PREF7</b>	.891	-.891	.371	-.371	-.075	.075	-.525	.525	-.138	.138	-.137	-.074	.210
<b>PREF8</b>	.490	-.490	1.041	-1.041	.646	-.646	.112	-.112	.416	-.416	.120	-.093	-.027
<b>PREF9</b>	.498	-.498	.253	-.253	-.026	.026	-.391	.391	-.688	.688	.898	-1.106	.209
<b>PREF15</b>	-.376	.376	.344	-.344	2.388	-2.388	.632	-.632	.735	-.735	-.213	.168	.046
<b>PREF16</b>	.018	-.018	.503	-.503	-1.092	1.092	-.030	.030	-.061	.061	-.386	-.319	.706
<b>PREF21</b>	.183	-.183	1.126	-1.126	.824	-.824	-.127	.127	-.091	.091	-.071	.351	-.281
<b>PREF24</b>	1.107	-1.107	.380	-.380	.941	-.941	-.952	.952	.252	-.252	-.833	-.066	.898
<b>PREF26</b>	.307	-.307	.331	-.331	1.685	-1.685	-.719	.719	.235	-.235	-1.333	.357	.975
<b>PREF27</b>	.497	-.497	.287	-.287	1.220	-1.220	-.175	.175	.374	-.374	-.508	.607	-1.100
<b>PREF29</b>	-.796	.796	-.463	.463	.427	-.427	-.962	.962	.953	-.953	-1.108	-.307	1.416
<b>PREF31</b>	.950	-.950	-.054	.054	.735	-.735	-.512	.512	.772	-.772	.367	.393	-.760
<b>PREF37</b>	-.301	.301	1.378	-1.378	.514	-.514	.207	-.207	.366	-.366	-.024	-.273	.297
<b>PREF41</b>	.280	-.280	.285	-.285	.895	-.895	-.476	.476	.208	-.208	-.748	.274	.473
<b>PREF43</b>	-.113	.113	.803	-.803	1.082	-1.082	-.571	.571	-.130	.130	-.197	-.278	.474

## Appendix 4.2: (continued)

<b>PREF45</b>	.652	-.652	.718	-.718	1.210	-1.210	-.273	.273	-.076	.076	-.308	.653	-.346
<b>PREF49</b>	.181	-.181	.846	-.846	1.553	-1.553	.267	-.267	.660	-.660	-.435	-.135	.569
<b>PREF52</b>	.208	-.208	.995	-.995	1.906	-1.906	-.613	.613	.070	-.070	-.366	-.860	1.227
<b>PREF54</b>	-.021	.021	1.111	-1.111	1.540	-1.540	-.100	.100	.499	-.499	.102	-.521	.418
<b>PREF56</b>	.422	-.422	.600	-.600	1.053	-1.053	.497	-.497	.018	-.018	.258	-1.223	.966
<b>PREF58</b>	.904	-.904	.897	-.897	.123	-.123	-.091	.091	-1.061	1.061	-.196	1.223	-1.026
<b>PREF59</b>	-.560	.560	1.134	-1.134	1.426	-1.426	-.199	.199	1.054	-1.054	-.665	.618	.048
<b>PREF67</b>	-.050	.050	.032	-.032	-.129	.129	-1.042	1.042	.007	-.007	-.311	-.169	.481
<b>PREF68</b>	.202	-.202	1.744	-1.744	.726	-.726	.063	-.063	.985	-.985	-.538	-.404	.942
<b>PREF73</b>	.047	-.047	1.454	-1.454	.067	-.067	-.309	.309	.907	-.907	.377	-.200	-.177
<b>PREF78</b>	.093	-.093	-.766	.766	1.057	-1.057	-.352	.352	-.756	.756	.177	-.791	.615
<b>PREF81</b>	-.117	.117	.835	-.835	-.719	.719	-.703	.703	1.234	-1.234	-.138	-.302	.439
<b>PREF85</b>	.552	-.552	.543	-.543	1.163	-1.163	.361	-.361	-.292	.292	-.232	-.618	.849
<b>PREF86</b>	.807	-.807	-.052	.052	.373	-.373	.234	-.234	-.299	.299	.918	-.452	-.467
<b>PREF88</b>	.822	-.822	-.317	.317	-1.171	1.171	-.107	.107	-.124	.124	-1.167	.225	.942
<b>PREF94</b>	-.554	.554	.173	-.173	.154	-.154	-.846	.846	.746	-.746	-.266	-.751	1.018
<b>PREF95</b>	.846	-.846	.704	-.704	-.069	.069	1.724	-1.724	-.803	.803	.183	-.156	-.026
<b>PREF98</b>	.272	-.272	1.082	-1.082	.389	-.389	-.203	.203	-.133	.133	1.874	-1.373	-.500
<b>PREF99</b>	.582	-.582	.480	-.480	1.722	-1.722	-.096	.096	-.272	.272	-.265	-.534	.799
<b>PREF100</b>	-.479	.479	.797	-.797	.523	-.523	-.703	.703	1.274	-1.274	-1.089	.518	.572
<b>PREF101</b>	1.074	-1.074	.719	-.719	.305	-.305	-.042	.042	.721	-.721	1.630	-.823	-.807
<b>PREF102</b>	.201	-.201	-.469	.469	.274	-.274	.092	-.092	.092	-.092	-.310	-1.316	1.627
<b>PREF112</b>	-.090	.090	.795	-.795	-.066	.066	-.417	.417	.524	-.524	-1.044	.344	.701
<b>PREF113</b>	-.249	.249	-.241	.241	.225	-.225	-.091	.091	-1.377	1.377	-.367	-.855	1.223
<b>PREF119</b>	-1.416	1.416	-1.330	1.330	1.945	-1.945	-.338	.338	.446	-.446	-1.023	-.036	1.058
<b>PREF121</b>	.473	-.473	.686	-.686	1.479	-1.479	.064	-.064	.210	-.210	-.113	-.067	.181
<b>PREF124</b>	1.139	-1.139	.343	-.343	.360	-.360	-.186	.186	-1.257	1.257	.132	-.332	.200
<b>PREF125</b>	-.311	.311	-1.002	1.002	1.190	-1.190	-.323	.323	-1.110	1.110	-.382	.229	.153
<b>PREF127</b>	.293	-.293	.105	-.105	1.160	-1.160	.451	-.451	-.116	.116	.754	-1.091	.338
<b>PREF132</b>	.649	-.649	.651	-.651	1.061	-1.061	.902	-.902	-.202	.202	.165	-.162	-.003
<b>PREF135</b>	-.504	.504	.434	-.434	2.047	-2.047	.395	-.395	.740	-.740	.006	-.427	.422
<b>PREF136</b>	.672	-.672	.868	-.868	1.686	-1.686	.324	-.324	-.170	.170	.422	-1.480	1.058
<b>PREF138</b>	.064	-.064	-.273	.273	1.204	-1.204	-.132	.132	-.462	.462	.288	-1.057	.770
<b>PREF141</b>	.425	-.425	-.723	.723	.869	-.869	-.189	.189	-.883	.883	.369	-.801	.431
<b>PREF143</b>	.453	-.453	.484	-.484	1.025	-1.025	.065	-.065	-.004	.004	-.036	-.252	.287
<b>PREF145</b>	.045	-.045	-.284	.284	-.637	.637	.069	-.069	.276	-.276	.340	.700	-1.040
<b>PREF153</b>	.062	-.062	-.251	.251	1.519	-1.519	.229	-.229	.347	-.347	-.717	-.050	.766
<b>PREF159</b>	-.024	.024	.491	-.491	1.306	-1.306	.600	-.600	-.168	.168	-.685	.551	.133
<b>PREF170</b>	.399	-.399	.064	-.064	1.523	-1.523	.786	-.786	.514	-.514	.376	-.358	-.019
<b>PREF172</b>	.082	-.082	.206	-.206	.775	-.775	-.460	.460	-.395	.395	-.162	.509	-.347

## Appendix 4.2: (continued)

PREF190	.439	-.439	.488	-.488	1.270	-1.270	.541	-.541	.419	-.419	.219	-.257	.037
PREF201	.909	-.909	.313	-.313	1.338	-1.338	-.434	.434	.037	-.037	-1.182	.467	.714
PREF203	.283	-.283	.507	-.507	.389	-.389	-.603	.603	-.842	.842	-.908	1.211	-.303
PREF207	.409	-.409	.297	-.297	1.215	-1.215	-.535	.535	.488	-.488	-1.246	.564	.683
PREF208	.453	-.453	.484	-.484	1.025	-1.025	.065	-.065	-.004	.004	-.036	-.252	.287
PREF210	.483	-.483	.900	-.900	1.245	-1.245	.836	-.836	.073	-.073	-.867	.861	.005
PREF211	.139	-.139	.288	-.288	.666	-.666	.254	-.254	.006	-.006	1.005	-.478	-.528
PREF212	.139	-.139	.288	-.288	.666	-.666	.254	-.254	.006	-.006	1.005	-.478	-.528
PREF239	-.035	.035	.392	-.392	1.121	-1.121	.195	-.195	.240	-.240	-.214	.113	.100
PREF260	.174	-.174	-.220	.220	1.965	-1.965	.192	-.192	-.004	.004	-.832	.584	.247
PREF292	2.663	-2.663	.676	-.676	.674	-.674	.175	-.175	-1.223	1.223	.507	-1.031	.523
PREF308	1.368	-1.368	1.064	-1.064	.666	-.666	.057	-.057	-.334	.334	.352	-1.004	.651
PREF312	.391	-.391	.434	-.434	1.529	-1.529	-.560	.560	.325	-.325	-.278	-.567	.846
PREF314	.785	-.785	-.310	.310	.311	-.311	-1.177	1.177	-.116	.116	-1.664	-.190	1.853
PREF320	1.717	-1.717	.830	-.830	-.057	.057	-.713	.713	-1.039	1.039	-.137	-1.005	1.141
PREF334	.521	-.521	.418	-.418	1.209	-1.209	-.224	.224	.170	-.170	.094	.518	-.613
PREF345	-.835	.835	.162	-.162	2.378	-2.378	.290	-.290	.927	-.927	-.022	-.216	.239
PREF357	-.305	.305	-.219	.219	1.812	-1.812	.412	-.412	.473	-.473	-.348	-.269	.618
PREF358	.126	-.126	-.213	.213	1.718	-1.718	.483	-.483	.133	-.133	-.204	.319	-.114
PREF363	.453	-.453	.484	-.484	1.025	-1.025	.065	-.065	-.004	.004	-.036	-.252	.287
PREF367	-.600	.600	-.358	.358	1.274	-1.274	-.238	.238	.159	-.159	.101	-.984	.882
PREF369	.859	-.859	-.490	.490	-1.125	1.125	-.147	.147	-.612	.612	1.352	-.670	-.681
PREF370	.630	-.630	-.405	.405	-.347	.347	.105	-.105	-.048	.048	.091	-1.029	.938
PREF376	.524	-.524	.141	-.141	1.007	-1.007	-.559	.559	.719	-.719	1.200	-.695	-.506
PREF381	-.203	.203	.284	-.284	1.305	-1.305	.469	-.469	-.283	.283	.267	-.521	.255
PREF385	.543	-.543	.189	-.189	.896	-.896	.262	-.262	.107	-.107	-.524	-.983	1.508
PREF396	.940	-.940	.791	-.791	.771	-.771	-.639	.639	-.657	.657	.113	-.356	.243
Total	25.85	-25.85	29.21	-29.21	69.39	-69.39	-6.59	6.59	3.80	-3.80	-8.88	-19.58	28.46
Mean	.315	-.315	.356	-.356	.846	-.846	-.080	.080	.046	-.046	-.108	-.239	.347
Ranges	0.630		0.712		1.693		-0.161		0.093		-0.455		
Rel Impo	25.10%		28.36%		67.38%		-6.40%		3.69%		-18.13%		

## Appendix 4.3 : The Part-Worth Utilities of Cluster 3

	Cleaning Ability		Sudsing Ability		Skin Care		Fragrance		Density		Price		
	a <sub>11</sub>	a <sub>12</sub>	a <sub>21</sub>	a <sub>22</sub>	a <sub>31</sub>	a <sub>32</sub>	a <sub>41</sub>	a <sub>42</sub>	a <sub>51</sub>	a <sub>52</sub>	a <sub>61</sub>	a <sub>62</sub>	a <sub>63</sub>
PREF10	1.140	-1.140	1.378	-1.378	.823	-.823	.174	-.174	.270	-.270	.445	-.445	-3.249
PREF25	.588	-.588	-.014	.014	1.899	-1.899	.261	-.261	-.276	.276	.150	-.150	-2.767
PREF33	-.130	.130	.686	-.686	1.594	-1.594	.092	-.092	.662	-.662	-.540	.540	-3.034

## Appendix 4.3: (continued)

<b>PREF50</b>	1.024	-1.024	1.184	-1.184	1.075	-1.075	-.074	.074	-.164	.164	1.419	-1.419	-4.328
<b>PREF60</b>	.539	-.539	.696	-.696	1.367	-1.367	-.097	.097	.330	-.330	-.067	.067	-2.818
<b>PREF61</b>	1.586	-1.586	.722	-.722	.751	-.751	.256	-.256	.023	-.023	-.709	.709	-2.444
<b>PREF65</b>	.537	-.537	.162	-.162	1.989	-1.989	.204	-.204	-.100	.100	-.564	.564	-2.914
<b>PREF69</b>	.678	-.678	.763	-.763	1.781	-1.781	.340	-.340	-.015	.015	-.086	.086	-2.179
<b>PREF76</b>	.939	-.939	.542	-.542	.160	-.160	-.192	.192	.057	-.057	-.481	.481	-2.678
<b>PREF89</b>	.129	-.129	-.051	.051	.717	-.717	.476	-.476	.318	-.318	.931	-.931	-3.139
<b>PREF96</b>	-.046	.046	.421	-.421	1.141	-1.141	.232	-.232	.535	-.535	-.076	.077	-2.552
<b>PREF103</b>	.723	-.723	.367	-.367	1.672	-1.672	.127	-.127	.189	-.189	.038	-.038	-2.277
<b>PREF109</b>	.695	-.695	.638	-.638	1.983	-1.983	.368	-.368	.535	-.535	-.252	.252	-2.969
<b>PREF115</b>	1.006	-1.006	-.269	.269	1.036	-1.036	.773	-.773	-.993	.993	-.027	.027	-1.802
<b>PREF117</b>	.982	-.982	1.427	-1.427	.970	-.970	.089	-.089	.641	-.641	.035	-.035	-2.079
<b>PREF133</b>	.960	-.960	.920	-.920	.603	-.603	.405	-.405	.172	-.172	-.175	.175	-2.259
<b>PREF152</b>	.601	-.601	.564	-.564	1.573	-1.573	.098	-.098	.108	-.108	-.090	.090	-1.887
<b>PREF161</b>	.919	-.919	1.117	-1.117	2.042	-2.042	.129	-.129	.163	-.163	-.454	.454	-3.120
<b>PREF171</b>	.823	-.823	.724	-.724	1.204	-1.204	.645	-.645	.164	-.164	-.078	.077	-1.719
<b>PREF179</b>	.825	-.825	.223	-.223	1.424	-1.424	.263	-.263	-.801	.801	-.367	.367	-3.191
<b>PREF181</b>	.308	-.308	.413	-.413	1.628	-1.628	.505	-.505	.176	-.176	-.036	.036	-2.681
<b>PREF185</b>	.825	-.825	.223	-.223	1.424	-1.424	.263	-.263	-.801	.801	-.367	.367	-3.191
<b>PREF188</b>	2.487	-2.487	-.629	.629	.543	-.543	.494	-.494	-1.361	1.361	-.345	.345	-4.053
<b>PREF200</b>	.943	-.943	.145	-.145	1.467	-1.467	.215	-.215	.076	-.076	.161	-.161	-2.122
<b>PREF202</b>	.986	-.986	1.105	-1.105	1.201	-1.201	-.245	.245	.608	-.608	.444	-.444	-1.792
<b>PREF204</b>	.857	-.857	.088	-.088	.885	-.885	.275	-.275	-1.566	1.566	-.005	.004	-2.436
<b>PREF221</b>	1.566	-1.566	-.194	.194	1.650	-1.650	.065	-.065	-.950	.950	-.080	.080	-2.875
<b>PREF223</b>	.511	-.511	.559	-.559	1.115	-1.115	-.554	.554	.405	-.405	-.865	.865	-2.995
<b>PREF229</b>	.942	-.942	-.145	.145	1.592	-1.592	.470	-.470	-.230	.230	.183	-.183	-2.770
<b>PREF234</b>	.498	-.498	.081	-.081	1.507	-1.507	.448	-.448	-1.026	1.026	.546	-.546	-2.528
<b>PREF259</b>	1.070	-1.070	.894	-.894	1.138	-1.138	.163	-.163	-.381	.381	-.311	.311	-2.542
<b>PREF289</b>	1.057	-1.057	.347	-.347	2.015	-2.015	-.192	.192	-.034	.034	1.018	-1.018	-2.946
<b>PREF298</b>	.780	-.780	-.201	.201	1.128	-1.128	.685	-.685	-.976	.976	-.576	.576	-2.480
<b>PREF315</b>	.414	-.414	.936	-.936	1.203	-1.203	-.124	.124	.499	-.499	.221	-.221	-1.556
<b>PREF323</b>	1.063	-1.063	.994	-.994	1.218	-1.218	-.097	.097	.837	-.837	.757	-.757	-1.283
<b>PREF331</b>	.205	-.205	.666	-.666	.742	-.742	.553	-.553	-.426	.426	.868	-.868	-2.822
<b>PREF337</b>	1.426	-1.426	.032	-.032	1.391	-1.391	.256	-.256	-.337	.337	.706	-.706	-2.894
<b>PREF356</b>	.768	-.768	.467	-.467	1.457	-1.457	-.185	.185	-.271	.271	-.037	.037	-1.967
<b>PREF371</b>	.537	-.537	.162	-.162	1.989	-1.989	.204	-.204	-.100	.100	-.564	.564	-2.914
<b>PREF378</b>	.528	-.528	.902	-.902	.962	-.962	.200	-.200	.625	-.625	-.327	.327	-2.086
<b>PREF382</b>	.845	-.845	-.039	.039	1.840	-1.840	.135	-.135	-.096	.096	-.005	.004	-2.457
<b>PREF384</b>	.631	-.631	.057	-.057	1.411	-1.411	.350	-.350	-.503	.503	.278	-.278	-3.461
<b>PREF387</b>	1.098	-1.098	-.211	.211	.994	-.994	1.251	-1.251	-.883	.883	-.116	.116	-3.665

## Appendix 4.3: (continued)

<b>PREF388</b>	1.048	-1.048	.508	-.508	1.567	-1.567	.018	-.018	-.186	.186	-.075	.075	-1.736
<b>PREF389</b>	.476	-.476	.373	-.373	1.009	-1.009	.075	-.075	.133	-.133	-.284	.284	-2.844
<b>PREF394</b>	.954	-.954	.620	-.620	1.359	-1.359	.556	-.556	.076	-.076	.199	-.199	-2.447
<b>PREF397</b>	.916	-.916	.065	-.065	.932	-.932	.243	-.243	-1.513	1.513	.053	-.053	-2.413
<b>Total</b>	38.2	-38.2	20.4	-20.4	61.2	-61.2	10.6	-10.6	-6.4	6.4	.5	-.5	-123.3
<b>Mean</b>	.814	-.814	.434	-.434	1.301	-1.301	.225	-.225	-.136	.136	.011	-.011	-2.624
<b>Ranges</b>	1.628		0.869		2.603		0.451		-0.272		2.635		
<b>Rel Impo</b>	<b>20.57%</b>		<b>10.98%</b>		<b>32.89%</b>		<b>5.70%</b>		<b>-3.43%</b>		<b>33.30%</b>		

Source: SPSS Version 19

## Appendix 5: Perceived Value of Brands in Each Cluster

## Appendix 5.1: Pril ISIS

Attributes		Cluster 1		Cluster 2		Cluster 3	
		Attribute Value		Attribute Value		Attribute Value	
<b>Cleaning Ability</b>	Relative Importance	15,30%		25,10%		20,57%	
	Attribute Evaluation	8,76	<b>1,34</b>	8,76	<b>2,20</b>	8,76	<b>1,80</b>
<b>Sudsing Ability</b>	Relative Importance	5,52%		28,36%		10,98%	
	Attribute Evaluation	8,32	<b>0,46</b>	8,32	<b>2,36</b>	8,32	<b>0,91</b>
<b>Skin Care</b>	Relative Importance	64,44%		67,38%		32,89%	
	Attribute Evaluation	7,40	<b>4,77</b>	7,40	<b>4,99</b>	7,40	<b>2,43</b>
<b>Fragrance</b>	Relative Importance	-0,79%		-6,40%		5,70%	
	Attribute Evaluation	7,61	<b>-0,06</b>	7,61	<b>-0,49</b>	7,61	<b>0,43</b>
<b>Density</b>	Relative Importance	-4,90%		3,69%		-3,43%	
	Attribute Evaluation	7,87	<b>-0,39</b>	7,87	<b>0,29</b>	7,87	<b>-0,27</b>
<b>Price</b>	Relative Importance	20,43%		-18,13%		33,30%	
	Attribute Evaluation	7,12	<b>1,46</b>	7,12	<b>-1,29</b>	7,12	<b>2,37</b>
<b>Perceived Value</b>		<b>7,58</b>		<b>8,06</b>		<b>7,69</b>	



## Appendix 5.2: Test

Attributes		Cluster 1		Cluster 2		Cluster 3	
		Attribute Value		Attribute Value		Attribute Value	
<b>Cleaning Ability</b>	Relative Importance	15,30%		25,10%		20,57%	
	Attribute Evaluation	7,62	<b>1,17</b>	7,62	<b>1,91</b>	7,62	<b>1,57</b>
<b>Sudsing Ability</b>	Relative Importance	5,52%		28,36%		10,98%	
	Attribute Evaluation	7,36	<b>0,41</b>	7,36	<b>2,09</b>	7,36	<b>0,81</b>
<b>Skin Care</b>	Relative Importance	64,44%		67,38%		32,89%	
	Attribute Evaluation	6,74	<b>4,34</b>	6,74	<b>4,54</b>	6,74	<b>2,22</b>
<b>Fragrance</b>	Relative Importance	-0,79%		-6,40%		5,70%	
	Attribute Evaluation	7,30	<b>-0,06</b>	7,30	<b>-0,47</b>	7,30	<b>0,42</b>
<b>Density</b>	Relative Importance	-4,90%		3,69%		-3,43%	
	Attribute Evaluation	6,70	<b>-0,33</b>	6,70	<b>0,25</b>	6,70	<b>-0,23</b>
<b>Price</b>	Relative Importance	20,43%		-18,13%		33,30%	
	Attribute Evaluation	7,12	<b>1,46</b>	7,12	<b>-1,29</b>	7,12	<b>2,37</b>
<b>Perceived Value</b>		<b>6,98</b>		<b>7,03</b>		<b>7,15</b>	

## Appendix 5.3: Aigle

Attributes		Cluster 1		Cluster 2		Cluster 3	
		Attribute Value		Attribute Value		Attribute Value	
<b>Cleaning Ability</b>	Relative Importance	15,30%		25,10%		20,57%	
	Attribute Evaluation	7,36	<b>1,13</b>	7,36	<b>1,85</b>	7,36	<b>1,51</b>
<b>Sudsing Ability</b>	Relative Importance	5,52%		28,36%		10,98%	
	Attribute Evaluation	6,95	<b>0,38</b>	6,95	<b>1,97</b>	6,95	<b>0,76</b>
<b>Skin Care</b>	Relative Importance	64,44%		67,38%		32,89%	
	Attribute Evaluation	6,43	<b>4,15</b>	6,43	<b>4,33</b>	6,43	<b>2,12</b>
<b>Fragrance</b>	Relative Importance	-0,79%		-6,40%		5,70%	
	Attribute Evaluation	6,82	<b>-0,05</b>	6,82	<b>-0,44</b>	6,82	<b>0,39</b>
<b>Density</b>	Relative Importance	-4,90%		3,69%		-3,43%	
	Attribute Evaluation	6,34	<b>-0,31</b>	6,34	<b>0,23</b>	6,34	<b>-0,22</b>
<b>Price</b>	Relative Importance	20,43%		-18,13%		33,30%	
	Attribute Evaluation	6,73	<b>1,38</b>	6,73	<b>-1,22</b>	6,73	<b>2,24</b>
<b>Perceived Value</b>		<b>6,67</b>		<b>6,73</b>		<b>6,81</b>	

**Appendix 5.4: Fairy**

Attributes		Cluster 1		Cluster 2		Cluster 3	
		Attribute Value		Attribute Value		Attribute Value	
<b>Cleaning Ability</b>	Relative Importance	15,30%		25,10%		20,57%	
	Attribute Evaluation	7,04	<b>1,08</b>	7,04	<b>1,77</b>	7,04	<b>1,45</b>
<b>Sudsing Ability</b>	Relative Importance	5,52%		28,36%		10,98%	
	Attribute Evaluation	6,68	<b>0,37</b>	6,68	<b>1,90</b>	6,68	<b>0,73</b>
<b>Skin Care</b>	Relative Importance	64,44%		67,38%		32,89%	
	Attribute Evaluation	6,15	<b>3,96</b>	6,15	<b>4,15</b>	6,15	<b>2,02</b>
<b>Fragrance</b>	Relative Importance	-0,79%		-6,40%		5,70%	
	Attribute Evaluation	6,92	<b>-0,05</b>	6,92	<b>-0,44</b>	6,92	<b>0,39</b>
<b>Density</b>	Relative Importance	-4,90%		3,69%		-3,43%	
	Attribute Evaluation	6,35	<b>-0,31</b>	6,35	<b>0,23</b>	6,35	<b>-0,22</b>
<b>Price</b>	Relative Importance	20,43%		-18,13%		33,30%	
	Attribute Evaluation	6,37	<b>1,30</b>	6,37	<b>-1,15</b>	6,37	<b>2,12</b>
<b>Perceived Value</b>		<b>6,35</b>		<b>6,44</b>		<b>6,50</b>	

Source: SPSS Version 19

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## Abstract:

The thesis consolidates two concepts which capture firms' interests. The first concept is competitive strategy and the second concept is customer value. The former concept has proliferated to become inevitable in all industries and the latter concept has become the pivotal determinant of success. A clear competitive strategy results a strategic positioning that leads to gain a competitive advantage, which is the premier task of each business unit. Customer value on the other hand, can be delivered through several means; each mean differs in the magnitude of the delivered value. However, the thesis embodies customer value from strategic positioning stand-point. Both, descriptive and inferential statistics were included in the research besides extra information provided by Henkel to whether accept or reject the proposed hypotheses. In order to achieve its objectives, the research incorporates several analyses including multidimensional scaling, preference scaling, clustering analysis and conjoint analysis.

**Key words:** strategic positioning, perceived value, means-end chain, benefit segmentation, conjoint analysis.

## ملخص:

دمجت الأطروحة مفهومين أساسيين جلبا إهتمام المؤسسات. المفهوم الأول يتضمن الإستراتيجية التنافسية أما المفهوم الثاني يتمثل في القيمة المدركة للعميل. شهد مفهوم الإستراتيجية التنافسية تكاثرا كبيرا بحيث أصبحت محتمة على كل صناعة. القيمة المدركة للعميل في المقابل أصبحت المحدد الأساسي للنجاح. إستراتيجية تنافسية واضحة تؤدي الى إكتساب موقع تنافسي الذي يعد المهمة الأساسية لكل قطاع نشاط إستراتيجي. للمؤسسة عدة طرق لتوفير القيمة للعميل، تختلف كل طريقة على الأخرى في كمية القيمة الموفرة. تتناول الأطروحة مفهوم القيمة المدركة من منظور إستراتيجي. لقبول أو رفض الفرضيات، تم الإعتماد على الإحصاء الوصفي والإحصاء الإستدلالي بالإضافة إلى المعلومات التي قدمتها هنكل. للوصول إلى الأهداف المؤطرة، تضمن الموضوع تحاليل و دراسات مختلفة تتمثل في التحليل متعدد الأبعاد، الدراسة العنقودية و الدراسة الموحدة أو المشتركة (conjoint analysis).  
**المصطلحات الأساسية:** التموقع الاستراتيجي التنافسي، القيمة المدركة، سلسلة النهايات، التقسيم عن طريق الفوائد، الدراسة الموحدة (المشتركة).

## Résumé:

La thèse regroupe deux notions qui acquièrent l'intérêt des entreprises. « La stratégie concurrentielle » et « La valeur ». La première est devenue inévitable dans toutes les industries et la seconde est devenue le déterminant clé de la réussite. Une stratégie concurrentielle claire donne un positionnement stratégique concurrentiel qui conduit à acquérir un avantage concurrentiel, qui est la tâche essentiel de chaque domaine d'activité stratégique. La valeur, d'autre part, peut être fournie par plusieurs moyens dont chacun diffère de l'autre par la grandeur de la valeur délivrée. Toutefois, la thèse représente la valeur du point de vue stratégique. Les deux statistiques descriptives et déductives ont été incluses dans la thèse en plus de certaines informations supplémentaires fournies par Henkel pour accepter ou rejeter les hypothèses proposées. Pour atteindre ses objectifs, la recherche inclut aussi plusieurs analyses dont l'analyse multidimensionnelle, l'analyse typologique et l'analyse conjointe.

**Mots-clés :** positionnement stratégique concurrentiel, valeur perçue, chaîne de means-end, segmentation selon les bénéfices, l'analyse conjointe.