

TECHNOLOGICAL COMPONENT AND ITS IMPACT ON THE SUCCESS OF SMI IN SKIN CARE PRODUCT

(Keyword: Facial Care, Product, Component, Customer Preference)

Facial care moisturiser is identified as the most marketable product in the cosmetics and toiletries segment. Moisturiser is used to restore the barrier function of the epidermis; provide a soothing protective film; increase water content and other additional properties such as anti-ageing. The function is dependent on the ingredients used in the formulation of product. Application of technological innovative ingredients is desirable to ensure the competitiveness and sustainability of moisturising product in the market. The future of Malaysian skin care product is hence dependent on the application of science and technology of the formulation. This study were conducted in two stages to identify the ingredients used in both the selected local and foreign brands facial moisturiser and to observe any differences in the formulation between the local and foreign brand facial moisturiser. The next analyses were conducted on the marketing aspect and the advertisement approached of both the local and foreign brand's marketers to market their facial moisturiser.

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Vote No.: PJP/2005/PPA(15)

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Introduction

Skin care products have become important toiletries products used daily. This phenomenon had started since the early 20th century. Queen Cleopatra, a famous woman in history had been said to have bathed in milk to whiten and soften her skin. Cleopatra then had become a symbol for cosmetics and beautification till these days.

There were many different ingredients used in the formulation of skin care product. Previously, the ingredients used were those that easily available from the kitchen such as corn flour, lime, cucumber, milk and honey. The formulas were evolving over the century, with the addition of technological innovative ingredients as presence today. The skin care products were formulated in such a way that consumers would gain positive improvements on their skin and feel satisfied upon using the product.

Awareness on the ingredient used in the skincare product and the concern towards any possible side-effects on consumer's skin and health were increasing. Therefore, more and more cosmetic firms formulated skincare products that are safe yet effective. These firms were sensitive and responsive to consumer's preferences and needs by putting special consideration onto the safety and health aspect in their product.

The market for cosmetics industry is continuously growing. Globally, the industry reached a USD 166.2 billion market in the year 2000. Between 1994 and 2000, the average annual growth of the global cosmetics industry within these five years was at the rate of 11.5 percent (Weber & Villebonne, 2002).

Skin care market is the second largest after the hair care market. Within the skin care segment, the facial care products have been identified as the most important contributor to the increase of market trend (“Cosmetic and toiletries”, n.d.).

In line with the global trend, the Malaysia cosmetics and toiletries industry is also a fast growing and is coloured by both local and foreign brands from wide range from designer brands to budget cosmetics. It is the foreign brand however, that gained dominance in the Malaysian market. The sales volume for cosmetics and toiletries in 2004 was recorded at approximately RM 3 billion (USD 811 million). Up to July 2005, the Malaysia Drug Control Authority registered 101,423 items of cosmetics and toiletries products, whereby 69,810 items are cosmetics. Of the total number 30,124 (29.7%) are locally manufactured while 71,299 (70.3%) are imported (Chua, 2005).

Generally, the brands for facial care products in Malaysian consist of four groups. The first group is a product with local brand, own by local company and manufactured locally. The second group is a local brand, own by local company but manufactured abroad. The third group is a foreign brand, own by foreign company and manufactured abroad and the fourth group is the foreign brand, own by foreign company and manufactured abroad.

The skin care segment were also reported to be the largest sector within Malaysian cosmetics and toiletries market where 60 percent of the market value was contributed by the facial care product (“Global trend”, n.d.). The basic facial care products comprised of cleanser, moisturiser, toner and exfoliator. Cleansing would normally remove make up, dirt and waste products excreted by the skin and dead skin cells. Moisturiser protects a skin from moisture loss and guard a skin against environmental effects. Toner is used to prepare the skin for the appropriate pH before applying the moisturiser. And, exfoliating could remove dead skin cells to prevent pore clogging that would eventually dull the surface of the skin.

Within the facial care segment worldwide, moisturiser was the most demanded and marketable product. Throughout the 5 years periods of 1993 to 1997, facial moisturiser gained the largest share of global sales with a 20 percent growth of sales worldwide ("Global trend", n.d.).

There are varieties of ingredients available in the formula of facial moisturiser for them to give beneficial effect onto a skin. Most moisturiser contains a combination of these ingredients such as emollient, humectant, water, emulsifier, preservative, thickener, colour, fragrance and pH stabiliser. Since consumers today are demanded for product that can performed more than simply moisturised the skin, newer products introduced have other properties such as anti-aging, skin firming, whitening and surface protecting effect (Kraft and Lynde., 2005; Draelos, 2000). These products had incorporated technological innovative ingredients for these purposes.

There are numbers of new ingredients innovated by supplier of skin care ingredients worldwide to be offered to the formulator. Degusa, for example, had introduced ceramide that could perform as active ingredients to revitalize the skin by reinforcing the natural barrier of the skin. Ceramides is claim to minimise the effect of skin's thinning and making skin less susceptible to the effect of detergents and other external insults (Boswell, 2004).

Other than ingredients, marketers have developed novel ways to stabilise vitamins, acids and other active materials and deliver them to specific sites on top of and into the skin. Procter and Gamble for example has successfully combine niacinamide (vitamin B3), panthenol (pro-vitamin B5) and vitamin E into a single material called Vitaniacin. The Vitaniacin had been shown in clinical studies to exfoliate and moisturise the skin while providing skin moisture barrier repair benefit. With the presence of these technologically innovative ingredients, multiple benefits onto a skin are easily available by using one product (Branna, 2000).

Literature Review

In this literature review, the ingredients that constitute a moisturiser and its functions will be discussed, followed by the physiology of the skin. Next is on the Malaysian facial care industry; and finally the advertising and promotion.

Moisturising product formulation and the functions of its ingredients.

The term moisturiser emerges after an important finding by I.H Blank back in 1950s. The study determined the amounts of water held by the stratum corneum when in equilibrium with environment of varying relative humidity. It was found that the major factor that regulates the water content of tissue in vivo is due to its water content than its lipid content. It was observed that dry callus did not soften when put into petroleum or any other oil but softened in minutes when placed in water. Thus, the softening action of emollients, which are usually emulsions of oil and water is due to water (as cited in Kraft & Lynde, 2005).

There are vast array of moisturisers available today. The important substances that constitute a basic moisturiser include humectants, emollients and occlusives (Kraft & Lynde, 2005). Humectants generally promote water retention within the stratum corneum. Humectants are hygroscopic materials that possess the characteristic of absorbing water from moist until a certain degree of dilution is obtained. Humectants are also important to be added to oil in water type lotion to produce a stable product. Humectants in lotion will reduce the drying out of such creams on exposure to the air (Harry, 1976). The process of absorption by humectant can cause the increase of transepidermal water content from the dermis to the epidermis and finally lost to the environment. Hence, occlusive agent are almost always combine with humectant. They can work together to enhance epidermal hydration because occlusive agent can create a hydrophobic barrier over the skin and hence reduce transepidermal water loss. Common substances with humectant properties includes glycerin, honey, hyaluronic acid, pantenol, propylene glycol, sorbitol and urea and the common substances used as occlusive agents includes lanolin acid, stearic acid, cetyl alcohol, stearyl alcohol, lecithin, cholesterol, vegetable waxes such as candelilla and carnauba, beeswax, lanolin and stearyl stearate.

Emollient is another important ingredient in a moisturising product besides humectants and occlusive agent. Burton (as cited in Harry, 1976) describes emollient as an action or substance that softens the stratum corneum by increasing its water content and keep it soft by retarding the decrease of its water content. Lipids and oils are the main constituent of an emollient, it can fill the cracks between clusters desquamating corneocytes and are not usually occlusive unless applied heavily. It is added into moisturiser's formulation to give out a characteristic of smooth skin after application. Long chain fatty acids and fatty alcohols are normally used in topical cosmetic formulation. Common substances that possess an emollient property include cyclomethicone, dimethicone, isopropyl myristate, decyl oleate, isopropyl palmitate, castor oil, jojoba oil, octyl stearate, diisopropyl dilinoleate and collagen.

Humectant, emollient and occlusive are the principle substances in a moisturising product. Technology is used to continuously develop and improved the aesthetic properties and efficiency of these substances (Rawling et al., 2004). Humectancy, emolliency and occlusion are the crucial components needed in a moisturiser. However, there are other components that cannot be regarded as less important in a moisturiser. These include the invisible lipid barrier, active ingredient, emulsifier, thickening agent, preservative, carrier vehicle, solubiliser, antioxidant, sunscreen, vitamin and fragrance.

Delivery system

The ingredient that has been incorporated into the moisturiser does not give any positive function towards the skin if it is not delivered to the right location, at the right concentration and the correct period of time. Emulsion is important to deliver the cosmetic formulation (Wiechers et al., 2004). The selection of well-balanced emulsifier system is essentially for effective delivery of cosmetic active to the desired site. Other than emulsion, the liposomes, nanoparticles and oil bodies are among the delivery system available nowadays.

Emulsion can be described as a two-phase system consisting of two immiscible or partially miscible liquids. One being dispersed in the other phase in the form of small droplets (Kraft &

Lynde, 2005); and according to Encyclopedia of Emulsion Technology, emulsion is any heterogeneous system which has at least one immiscible or barely immiscible liquid dispersed in another liquid in the form of tiny droplet (as cited in O'Lenick, 2005).

Emulsification is a process that allows for the preparations of a metastable single phase of two insoluble materials. The metastable nature of the two insoluble materials is critical to understand the nature and performance of emulsions. The metastable nature of the emulsion and the requirement that the emulsion be cosmetically appealing become a unique challenge to the formulator (O'Lenick, 2005).

The most common emulsion is the oil in water emulsion (o/w) and water in oil emulsion (w/o). This depends on concentration of each material in the system, the type of emulsifier and the processing steps used to create emulsion (O'Lenick, 2005). Another type of emulsion available is the water in oil emulsion that reemulsified in water or w/o/w emulsions. They have unique properties including outstanding skin feel.

In summary, the ingredients in a moisturising product have three functions. First is for the care of the skin, the ingredients includes moisturisers, occlusive materials, humectants and sunscreen such as UV light absorber. Second is ingredients that is included into the moisturiser to give a pleasant feel during application such as fragrance, colours and other materials that can give good feel; and finally, for the integrity and shelf life of the product, for example thickening agent and preservative that are important to ensure the integrity of the product from manufacturer until it has been used completely by the consumers.

Physiology of the skin

The understanding on the physiology of the skin is important to further comprehend on how the substances and ingredients in the moisturiser works on the skin or specifically stratum corneum. Skin is divided into three main structural layers known as epidermis, dermis and subcutaneous tissue as shown in Figure 1

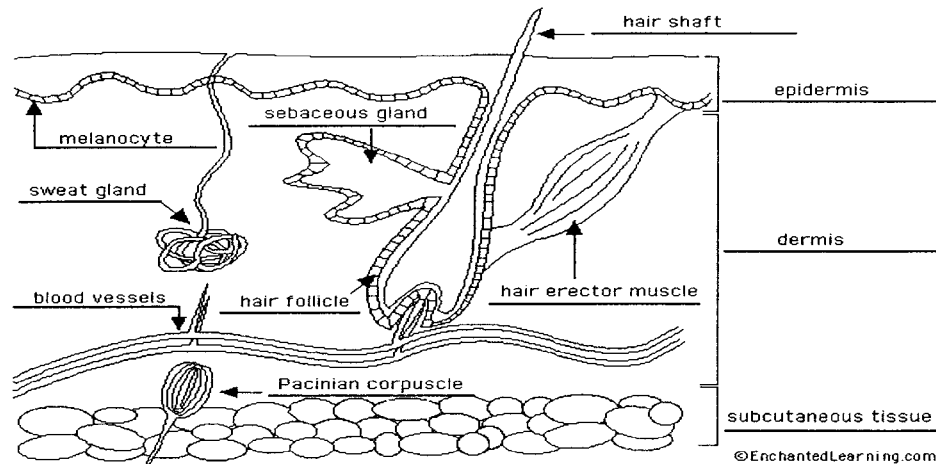


Figure 1 Skin structural layer. This figure is extracted from enchanted learning.com

Topical moisturisers normally applied on the skin will only affect the epidermis and to some extent the dermis of the skin. The epidermis consists of stacked layers of cells in transition.

The daughter cells from the basal layer is the innermost layer, slowly moved into the outer layers and further undergo various development stages. The next layer is known as the stratum spinosum or prickly cell layer. The keratinocytes in this layer change morphology from columnar to polygonal cells. Adjacent keratinocytes cells are connected to each other by desmosome. These desmosomes maintain a distance of approximately 20 nm between the cells (“Structure and function,” n.d.).

As the cells pass from the stratum spinosum to the stratum granulosum or granular layer, the keratinocytes continue to differentiate, synthesise keratin and start to flatten. Granular layer is only one to three cells layers thick and contains enzyme that degrade viable cell component such as nuclei and organelles. The membrane coating granules are also synthesised in this layer (“Structure and function”, n.d.).

The stratum lucidum is the layer in which the cell nucleus disintegrates and there is an increase in keratinisation of the cells and cell flattening. The stratum lucidum is seen most clearly in relatively thick skin specimen such as from the sole of feet and palms. Most

researchers tend to view the stratum lucidum as the lower portion of the stratum corneum ("Structure and function", n.d.).

The stratum corneum or also known as horny layer is the final product of epidermal cell differentiation. Stratum corneum comprises only 10 to 15 cell layers and is around 10 μm thick when dry. Since the keratinocytes of the stratum corneum are cornified, they are also called corneocytes. Corneocytes are flat, hexagonal shaped cell filled with water retaining keratin protein surrounded by a protein envelope and lipid ("Structure and function", n.d.).

During the process of maturation, the viable cells moving towards the stratum corneum begin to clump proteins into granules. The granules that are present in the granular cell layer of the skin are filled with a protein called filaggrin. To protect filaggrin from proteolytic breakdown. Filaggrin becomes complexed with keratin proteins in the granular cells. As the generating cells move toward the outer layer of the skin, enzyme break down the keratin-filaggrin complex. Filaggrin is on the outside of corneocytes and water retaining keratin remains inside the corneocytes of the stratum corneum (Marino,n.d.).

When moisture content of the skin decreased, specific proteolytic enzyme in the stratum corneum are triggered to further break down filaggrin into free amino acids. The free amino acids, along with other chemicals such as lactic acid, urea and salts are present in the stratum corneum and known as "natural moisturising factor" (NMF). NMFs are responsible for keeping the skin moist and pliable by attracting and holding water. This property is known as hygroscopic. The proteolytic breakdown of filaggrin to amino acid only happens when the skin is dry. There is less need for breakdown of filaggrin in humid weather than in dry wheather.

Desquamation is another important factor to keep skin smooth and healthy. The proteolytic enzyme is responsible for desquamation in the presence of well-hydrated stratum corneum. These enzymes are located intercellularly. During desquamation, the desmosome (protein complexes that hold the corneocyte together) must be degraded. In the absence of water, the

activity of hydrolytic activity of the desquamation enzyme is decreased and causes the formation of dry skin and form visibly powdery flakes on the skin surface. Other than hydration, the enzyme function can be affected by the reduced synthesis of the enzyme, inherent loss of activity, leaching from the surface layers of the corneum and changes in the surrounding lipid-rich microenvironment (Harding et al., 2000). Thus, the understanding on the desquamation process can offer opportunity in developing a new and an improved moisturising ingredients and technology to prevent and correct the problem of dry skin.

Another important mechanism to keep the skin moist and pliable is due to the function of intercellular lipids. The lipids form stacked bilayers (multilamellae) surrounding the corneocytes in the stratum corneum, and incorporate water into the structure. The lipids are derived from the degradation of cells in the granular layer of skin (similar to the origin of the protein granules). Special protein structure called lamellar granules is released into the extracellular spaces of the degrading cells. These lipids include cholesterol, free fatty acids and sphingolipids. Ceramides is a type of sphingolipid derived from lamellar granules. It is one of the major lipid components responsible for generating the stacked lipid structures. These lipids trap water molecules in their hydrophilic region.

The newly formed stacked lipids surrounding the corneocytes provide an impermeable barrier for the passage of water out of the stratum corneum and able to prevent the NMF from leaching out of the surface. Therefore, the intercellular lipids and corneocytes containing proteins and NMFs work together to provide an efficient barrier against water loss and water retention to maintain the flexibility of the skin. This protective forces shield the skin from desiccation and environmental assaults.

Malaysian facial care industry

This beauty industry is highly competitive and local companies are confronted with challenges to grab the opportunity in influencing the consumer and to success in the market.

Malaysian cosmetics products are under the Control of Drug and Cosmetic Regulations 1984. All cosmetic in Malaysia must be registered with the Drug Control Authority. Under the regulation, cosmetic is subject to mandatory ingredients listing on products label under the Control of Drugs and Cosmetic Regulations, 1984. The Drug Control Authority (DCA) has the mandate to protect the health of Malaysians by minimising the risk associated with the use of cosmetics marketed in Malaysia. Manufacturers are required to list all the ingredients on the product labels. This will allow consumers to avoid products containing ingredients to which they are sensitive. The Ingredients should be listed according to their International Nomenclature Cosmetic Ingredient (INCI) names to assist in the free movement of cosmetic products globally (National Pharmaceutical Control Bureau, 2005).

Labelling is the information written or printed or graphic matter on the immediate or outer packaging and any form of leaflets. The following particulars shall appear on the outer packaging: The name of the cosmetic products and its function, unless it is clear from the presentation of product; Instructions on the use of the cosmetic products, unless it is clear from the product name or presentation; A list of ingredients. Using the nomenclatures from the latest edition of standard references may specify the ingredients. Its genus may be abbreviated; Country of manufacture; The name and address of the company or person responsible for placing the product on the local market; The contents given by weight or volume, in either metric or both in metric and imperial system; The manufacturer's batch number; The manufacturing date or expiry date of the product in clear terms (for example; Month/year); Special precautions to be observed in use; Specific warning for example declaration of ingredients from animal parts must be declared and Registration number. The label display must be clearly legible and comprehensive and appear in English and or Bahasa Malaysia (National Pharmaceutical Control Bureau, 2005).

Generally, the brands for skin facial care product in Malaysia consist of four groups. The first group is a product with local brand, own by local company and manufactured locally. The second group is a local brand, own by local company and manufactured overseas. The third group is foreign brand, own by international company and manufactured abroad and the fourth

group is the foreign brand, own by international company but manufactured locally. Table 1 shows example of product brand in Malaysia for each category.

Table 1 General category of product brand in Malaysia

	Category	Example
1	Local brand, manufactured locally	Sendayu Tinggi, Nouvelle Visage and Olynn
2	Local brand, manufactured abroad	Golden Horse, Derm White and BML
3	Foreign brand, manufactured locally	Hazeline Snow
4	Foreign brand, manufactured abroad	SK-II, Loreal and Estee Lauder

The cosmetics industry consist of companies and entrepreneur that functioning in many ways. Some of the company manufacture and market their own products and others manufactured the product but they do not themselves sell the product. A rough grouping of cosmetic companies can be made as shown in Table 2. However the classifications are not rigid and are often overlapping (Balsam et al., 1974).

Table 2 General Classification of cosmetic companies

Group	Description
1	Firms that manufacture all or most of their products. However, to some extent they look for outside aid to manufacture certain product; for example, they may produce their own creams, lotions and shampoos and yet have lipstick and eye-makeup made by other manufacturer
2	Firms that do not formulate and manufacture their own product. Companies in these categories look entirely for outside manufacturer to get the product. Most of them are small firms or larger firms that considered themselves specialists in advertising, promotion, marketing and sale
3	Firms that manufactures entirely, or primarily, for others, and. They do little or no marketing or distributing for themselves. They are known as contract manufacturer or private label manufacturer
4	Firm that formulates the product themselves, but get outside manufacturer to produce all of their product range. This firm does not have their own manufacturing facilities

Most Malaysian facial care entrepreneurs can be classified in-group 2 and 4. They are firms that turn primarily to others to manufacture their products using their own recipe or formulation and also firms that depend entirely to the manufacturer for the formulation and production of products. Although they do not manufacture the products, understanding of the

scientific application of the product is important. There is a drawback for the firm's advancement if the entrepreneur does not understanding and master the related scientific application.

Technological development and innovation including product formulation and product presentation are therefore able to be key features in promoting the skin care product of certain brand. Malaysian cosmetic industry had to be innovative to be competitive in the market. The ability to survive and success will largely depend on the competencies to regularly formulate and test new attributes in order to lead the marketplace.

Technology and the success of facial care industry

Innovation of the formulation of facial care product is one of the challenges faced by local facial care industry. Innovation is the capability to keep a step ahead of one's environment. Without it, the industry will face difficulties to keep up with changes around. Innovations create competitive advantages. Technological innovation is also defined as establishing and maintaining linkages between the current and potential customers' needs and product whether it is new or modified product (Roger and Russel, 2002). Offering products that incorporate the latest technology is a best way to satisfy the customer (Pratali, 2003).

Technology and innovation is very important to keep in pace with competitors and to survive. Owner of the cosmetics companies must pay attention to the technological development. It has been estimated that over 60 percent of all economic growth is due to technological advancement rather than improvement in labour productivity (Freeman and Soete, 1997); and a study by Fang indicate that entrepreneurship and innovativeness are complementary and a combination of the two are vital to organisational success and sustainability in today's dynamic environment (Fang, 2005).

Marketing of facial care product

Advertising and promotion are crucial for marketing facial care product. It is important in creating awareness of new product and brand to the consumers. Most of the time consumers prefer to purchase products brands that they are familiar with or have previous experience

with. The marketer's main objective in an advertisement is to build a relationship with buyer to ensure repeated buying not just on a single sale. The relationship or bonding between the buyer and the brand is very important to ensure the success and sustainability of the brand. The advertisement itself includes several phases. First is the introduction of the brand to the consumer followed by familiarity and preferences and finally if successful, the customer will remain loyal towards the particular brand (Alreck and Settle, 1999). Claim is normally present in an advertisement. The European Cosmetic, Toiletry and Perfumery Association (COLIPA) define a cosmetic claim as any public information that is primarily provided for marketing purposes. On the content, the nature, the effect, the properties, or the efficacy of the product. A claim may constitute words, images, illustrations, marks or descriptions that may appear on products (packaging, label, inserts etc) or in advertising (for example, at sales products or circulated by different media) (Wiechers, 2005).

There are wide varieties of cosmetic claims. Indeed, various types of claims do exist that all require different levels of cosmetic claim substantiation. A study by Wiechers and Wortel identified three different types of claims that will be described as follows. The first one is emotive statement for example the claim made by L'Oreal, "Because I'm worth it" or "Kerana dirimu begitu berharga". This is not a cosmetic claim in the strict definition given above. This claim is therefore does not need to be substantiated. The second type of claim implying that the activity of the ingredient is maintained in the cosmetic product in which it is incorporated. For example "Product X containing Y that is known to do Z" in which Y is a cosmetic active ingredient and Z is the cosmetic efficacy. Evidence for this type of claim may come from the scientific literature or from the supplier of the ingredient. The third type of claim is on the product itself. "Product X is reducing wrinkles by Y % in Z days". In this category, the company claims that the cosmetic product itself does deliver the effect, although these claims are often softened by the use of the words "help to" (as cited in Wiechers, 2005).

There are several important factors other than advertising and promotion that related to consumer's behaviour when purchasing cosmetic. Factors that normally intervene in the purchase behaviour process include the price of the product, quality, packaging, local

recognition, opinion towards particular firms or products and the knowledgeable salesperson. The types of distribution and ability to pre-test are also an important features contributing to customer preferences towards certain product (Weber and Villebonne, 2005; Johri and Sahasakmantri, 1998).

Advertising and promotion are regarded as crucial areas for marketing skin care product. They are able to create awareness of new products and build brand loyalty among consumers ("Innovation solution," n.d.). It is recommended that the local marketer to be knowledgeable in the formulation of their products and educate the consumers on the scientific approach and processes of the product on the skin. This shall ensure the marketing and promotion of the moisturiser reach consumer effectively and able to convince and influence them to purchase local brand.

Problem Statement and Methodology

Problem Statement

The cosmetic industry is highly competitive industry with rapid changes. Understanding, mastering and applying production and formulation technology is an important attribute for cosmetics companies to remain competitive and to successfully market the local facial care product to the consumer. There is the possibility that foreign products will overwhelm the local cosmetics companies. This is because foreign products tend to use sophisticated and latest ingredients in formulating their facial care product. Hence, it is important to conduct a study to identify the usage of technological component specifically the ingredients formulated by Malaysian entrepreneur in their facial care product; and to identify the presence of technological component in their marketing approach.

Objectives

The purpose of this study is to identify the relative position of the local brand facial moisturiser in comparison to the foreign brands regarding to their technological component in the formulation and advertisements. To achieve this purpose, several objectives are introduced. These objectives are as given below.

To determine the ingredients used in formulating the facial moisturiser of the selected local and foreign brands.

To determine the differences and similarities in the formulation technology of both the local and foreign brands facial moisturiser.

To determine the differences between the high-priced facial moisturiser and the low to medium-priced facial moisturiser.

To study the advertisement of facial moisturiser especially on the attributes that promotes the technological component of the products.

Proposed Hypotheses

P1. All brands of facial moisturisers list the ingredients used at the product label.

P2. Foreign brand's facial moisturiser generally possesses sophisticated or technologically innovative ingredients than that of the local brands.

P3. The high-priced facial moisturisers possess more sophisticated ingredients than the low-priced products.

P4. Advertisements of foreign brands facial moisturisers contain more information about the ingredients of the product than that of the local brands

Methodology

This research was conducted using both the qualitative and quantitative methods. The research methods were used to achieve the objectives of the study and to unravel the research

questions. The methodology will be described in this chapter. The research activities are divided into two stages.

Stage 1- Understand and identify the ingredients used in facial moisturiser.

Stage 2- Study the marketing aspect and the advertisement approached of both the local and foreign brand's marketers to market their facial moisturiser.

Stage 1. The ingredients analysis

The research on the ingredients analysis was conducted using the qualitative method. The aim is to determine the ingredients used by the selected sample of facial moisturiser and to identify the similarities and differences between local and foreign brands. The analysis was also meant to identify the strength of the local brand and the area for improvement

The advertisements in three women magazines were used as a basis to choose the brands of facial moisturiser to be studied. The magazines are *Her World*, *Wanita* and *Mingguan Wanita*. The objective of the selection is to determine the most frequently advertised brands of facial care product. *Mingguan Wanita* is a weekly issued magazine unlike *Her World* and *Wanita* that are issued once a month. The selection of *Mingguan Wanita* is due to the presence of large number of advertisements and promotions of local facial care brands and it is targeted to Malay readers. *Her World* is an English medium magazine targeted to variety of ethnic groups. Six issues of *Her World* and *Wanita* from January to June 2005 were selected and 11 issues of *Mingguan Wanita*. The issues are as follows: 21-27 October, 14-20 October, 7-13 October, 30 Sept -6 October, 16-22 Sept, 16-22 August, 5-11 August, 12-19 August, 1-7 July, 8-14 July, 22-28 July and 10 -16 June 2005.

30 local brands and 9 foreign brands were selected from the most frequently advertised facial care brands in these three magazines. Even though Avon does not use magazines to advertise their products, Avon is included as the tenth sample for foreign brand sample since the brand is widely accepted in Malaysia. The brand is considered local if the company that holds the brand is a local company and it is considered foreign if the company that holds the brand is of

foreign company regardless of where it was manufactured. The identity of company owning the brands can be obtained from the website of the National Pharmaceutical Control Bureau at <http://www.bpfk.gov.my/Search>.

A facial moisturiser for each of the selected brands was chosen. For the purpose of this study, the moisturiser chosen are those whose primary function is to moisturise the normal skin. Since some of the brands only have products that also incorporate other function, for example some of them had UV protection in their moisturiser, such products are also included in this study.

The 40 brands of facial moisturisers were categorised into four categories based on their brand origin and price. The price of moisturising product were obtained and its per gram or millilitre was determined. The product with price lower than RM 3 per gram or millilitre is categorised as the low to medium-priced and those with the price equal to or more than RM 3 is categorised as high-priced. The four categories are high-priced local brand (LHP), low to medium-priced local brand (LLP), high-priced foreign brand (FHP) and low to medium-priced foreign brand (FLP).

The ingredients listed at the product label was documented and categorised into 16 different groups based on the function of the ingredients being emollient, humectant, emulsifier, preservatives, active ingredients, solvent or solubiliser, thickener or stabiliser, botanical property, fragrance, colour, antioxidant, carrier or vehicle, sunscreen, vitamins and anti-irritant.

The functions of each of the ingredients were identified based on the Milady's Skin Care & Cosmetics Ingredients Dictionary (2001). The ingredients that are not listed in this dictionary are regarded as having miscellaneous functions.

Stage 2. The marketing and advertisement analysis.

This stage of the study involves qualitative research method to determine the marketing strategy and technological content in advertisements of the 40 facial care product's brands. The 'content analysis' approaches were used in this study. The marketing components being considered were the product's form, packaging and product outlet of these products individually and as member of the four categories of brand.

The product forms were investigated by looking at the physical form of the product whether it is cream, lotion, solution or gel. The evaluation was made during the removal of the product from the container that is also known as during pick-up (Braddon et al., 2002) and measured by their relative viscosity.

The product is considered a lotion if it exhibits a viscosity and is pourable from the container at room temperature; a solution if it is pourable from the container and does not exhibit any viscosity; and a gel if it exhibits a viscosity, clear or opaque and dispensed from a squeezable packaging. The packaging of the product is being evaluated by looking at the material used for the container, whether the container is made of non-transparent plastic, transparent plastic or glass. The product outlet for each product was also identified within Malacca.

The advertisement studied were those made in the three magazines mentioned earlier. The advertisement for each brand is analysed based on the presence of the following element. The presence of information regarding the price and the outlet; illustration of product and ingredients, the type of claim, whether emotive statement or factual claim (Wiecher, 2005) were analysed. It shall also include the analyses on the presence of the illustration or explanation on the mechanism of action of the product; a testimonial endorsement and a picture of model. The results shall be presented according to the four categories of brand.

Results and Discussion

THE INGREDIENTS ANALYSIS OF THE LOCAL AND FOREIGN BRANDS FACIAL MOISTURISER

Introduction

This section shall present the results pertaining to the ingredients used in a facial moisturiser by both the local and foreign brands. Three propositions studied in this section are:

- P1. All brands of facial moisturisers list the ingredients used at the product label.
- P2. Foreign brand's facial moisturiser generally possesses sophisticated or technologically innovative ingredients than that of the local brands.
- P3. The high-priced facial moisturisers possess more ingredients than the low-priced products.

Sample brands and the frequency of advertisement.

In the selected magazines, 30 local brands and 9 foreign brands have been selected as the most frequently advertised brand in advertisements. The 30 brands and 9 foreign brands added with *Avon* are given in Table 3.

Table 3: Listing of brands studied and the frequency of being advertised.

No	Local brand name	Frequency	No	Local brand name	Frequency
1	<i>Jelitayu</i>	10	16	<i>Avant</i>	3
2	<i>Sendayu Tinggi</i>	10	17	<i>Ain beauty care</i>	3
3	<i>DeWajah</i>	10	18	<i>AG 2000</i>	3
4	<i>Nouvelle Visage (NV)</i>	10	19	<i>Pesona beauty</i>	3
5	<i>Derm White</i>	9	20	<i>BSB</i>	3
6	<i>Olynn</i>	8	21	<i>SS-II</i>	3
7	<i>Shadira</i>	7	22	<i>Natasya</i>	3
8	<i>Atika beauty</i>	6	23	<i>Cleopatra</i>	3
9	<i>Sri Cahya</i>	5	24	<i>Biofair</i>	3
10	<i>Reenzac Cosmetics</i>	5	25	<i>Seeri Cosmetics</i>	3
11	<i>Biojelly</i>	4	26	<i>Chantique</i>	3
12	<i>Seaweed marine beauty care</i>	3	27	<i>Citra Ayu</i>	2
13	<i>Felisa</i>	3	28	<i>Lerose</i>	2
14	<i>Golden Horse</i>	3	29	<i>BM hone spa</i>	2
15	<i>Natifa</i>	3	30	<i>Reena's cosmetics</i>	2
No	Foreign brand name	Frequency	No	Foreign brand name	Frequency
1	<i>SK-II</i>	11	6	<i>Christian Dior</i>	6
2	<i>Loreal</i>	8	7	<i>Bioessence</i>	6
3	<i>Estee Lauder</i>	6	8	<i>Clinelle</i>	5
4	<i>Lancome</i>	6	9	<i>Olay</i>	5
5	<i>Clinique</i>	6	10	<i>Avon</i>	-

The most frequently advertised local brands are *Jelitayu*, *Sendayu Tinggi*, *DeWajah*, *Nouvelle Visage*, *Derm White*, *Olynn*, *Shadira* and *Atika beauty* while the most frequently used foreign brands are, *SK-II*, *Loreal*, *Estee Lauder*, *Lancome*, *Clinique* and *Christian Dior*.

The four categories of facial moisturisers.

The facial moisturisers were categorised into four categories as the high-priced local brand (LHP), low to medium-priced local brand (LLP), high-priced foreign brand (FHP), and low to medium-priced foreign brand (FLP). Table 4 shows the facial moisturiser products and its price per gram. From these 40 selected facial moisturisers, the most expensive local brand is the *Day cream* by *Reena's cosmetics*. The price is RM 7.60 per gram. The lowest price for local brand moisturiser is the *UV White Moisturiser* by *Natifa* with the price RM 0.05 per gram. As for the foreign brand, the highest price is *Skin refirming treatment* of *SK-II*. The price is RM 7.20 per gram and the lowest price is the *White perfect deep moisturising lotion*

by *Loreal* with the price of RM 0.44 per gram. The information regarding the information on the price for each sample item are given in Appendix A.

Overall, there are seven brands in the LHP category as shown in Table 4. They are the *Day cream* by *Reena's cosmetics*, *Day cream* by *DeWajah*, *Sunbarrier cream SPF 15* by *Seaweed marine beauty care*, *Day cream* by *Nouvelle Visage* or also known as *NV*, *Sunblock Beta Carotene with BHA & AHA* by *Seeri Cosmetics*, *Day Cream Skin Whitening* by *Kosmetik Citra Ayu*, *Sunblock Beta Carotene* by *Felisa* and *Moisturising Essence* by *Shadira*. The other 23 local brands were in the LLP category. Five of the products are *A& O UV cream* by *SS-II*, *Skin-reborn whitening lotion* by *Jelitayu*, *In-tech moisturising firming serum* by *AG 2000*, *Skin nutrient gel* by *Sri Cahya*, and *Unique Moisturiser* by *Olynn* as shown in Table 4.

Four of the facial moisturiser in the foreign category are categorised into FHP, they are *Skin refining treatment* by *SK-II*, *DayWear Plus multi perfection antioxidant cream SPF 15* by *Estee Lauder*, *Aqua Fusion* by *Lancome* and *Hydraction* by *Christian Dior*. The other six samples of the foreign brands were categorised into the FLP category as shown in Table 4.

Table 4 Categorisation of 40 moisturising products used in this study.

	RM 5-RM 8	RM 4-RM 5	RM 3-RM 4	RM 3-RM 2	RM 2-RM 1	RM 1-RM .05
LOCAL BRANDS	Reena's cosmetics (Day cream)	Seeri Cosmetics (Sunblock beta carotene with BHA & AHA)	Kosmetik Citra Ayu (Day cream-skin whitening)	SS-II (A&O,UV cream)	BSB cosmetics (Whitening day cream)	Avant (Moisturiser)
	DeWajah (Day cream)		Felisa (Sunblock beta carotene)	Jelitayu (Skin reborn whitening lotion)	Natasya (Krim pelindung UV dan alas bedak)	Natifa (pelembap muka UV white)
	Seaweed marine beauty care (Sunbarrier cream SPF-15)		Shadira (Moisturising essence)	Pesona beauty shoppe (Moisturiser)	Atika beauty (Day cream)	Sendayu tinggi (Hydrator firming)
	NV (Day cream)			AG 2000 (In tech moisturising and firming serum)		Biofair (extra whitening skin care)
				Sri cahya cosmetics (Skin nutrient gel)		Cleopatra (Moisturiser white)
				Olynn (Unique moisturiser)		Royal jelly biocos (Water moist)
				Lerose skin care (Moisturiser)		Derm white (Sunblock cream SPF 35)
						Reenzac (Silky moisturiser cream)
						Ains beauty care (Face lotion 1)
						Golden horse cosmetics (Herbal moisturiser advanced formula)
						Chantique Moisturiser Q-10
FOREIGN BRANDS	SK-II (Skin refining treatment)		Estee Lauder (DayWear plus multi perfection antioxidant cream SPF 15)		Clinique (Dramatically different moisturising gel)	Loreal (White perfect-Deep whitening moisturising lotion)
			Lancome (Aqua Fusion)		Avon (Age block environmental protection cream SPF 15)	Clinique (Dramatically different moisturising gel)
			Christian Dior (Hydracton, deep hydration gel)			Bioessence (Sunscreen moisturising cream SPF 56)
						Olay (Total effect serum)

Analyses of ingredients.

The ingredients listed on the label of the facial moisturising product were studied. For each of the 40 brand of facial moisturiser, the functions of the ingredients contain in them were identified. The full list of ingredients and its function were given in Appendix A.

The presence of label of ingredients.

It was observed that seven out of 30 local brands or 21% do not include the list of ingredients on the label of their moisturiser. On the other hand, all international brands studied listed the ingredients on the label of their moisturiser. The label was listed using the chemical names of the products in either Bahasa Melayu or English language. However, the label for *SK-II* facial moisturiser was in Japanese Language. According to the promoter of SK-II product, the products are from Japan and the ingredients label was maintained for the Malaysian market.

The presence of vitamin.

The next observation is on the presence of vitamins in the formulation of moisturiser. Four products in the LHP category (44 percent) incorporate vitamins in their list of ingredients. These are products by *Seaweed marine and beauty care*, *Shadira*, *NV* and *Seeri Cosmetics*. Three products in the LLP category (14 percent) incorporate vitamin in their formulation. The products are *Ains beauty care*, *Natasya* and *Jelitayu*. On the other hand, two products in the FHP category (50 percent) incorporated vitamins in their formulation. These are products by *SK-II* and *Estee Lauder*. Three products in the FLP category (50 percent) that incorporate vitamins in their formulations are the *Total effect serum* by *Olay*, *Dramatically different moisturising gel* by *Clinique* and *Age block environmental protection cream SPF 15* by *Avon*.

The presence of natural extract.

In the LHP category, all of the brands have at least one ingredient from the natural extract. These brands are *Nouvelles Visages (NV)*, *Seaweed marine and beauty care*, *Seeri cosmetics*, *Atika beauty*, *Felisa*, *Kosmetik Citra Ayu* and *Shadira*. The moisturising essence by *Shadira* listed 5 natural extract ingredient.

As for the LLP category, 9 products have constituent of natural extract in the ingredients of their moisturisers. The brands that have natural extract as ingredients are *Natifa*, *Golden Horse Cosmetics*, *Cleopatra*, *Ains beauty care*, *Olynn*, *AG 2000*, *SS-II*, *Natasya* and *Jelitayu*.

For the FHP category, it can be seen that all the brands in this group contained the natural extract ingredients except for *Hydraction* by *Christian Dior*. *The DayWear plus multi perfection antioxidant cream* by *Estee Lauder* listed 12 ingredients of natural extract.

For the FLP category, 5 products in this category include natural extract in their ingredients. The products are *White perfect- deep whitening moisturising lotion* by *Loreal*, *Sunscreen moisturising cream SPF 56* by *Bioessence*, *Total effect serum* by *Olay*, *Age block environmental protection cream SPF 15* by *Avon* and *Moisture glow* by *Clinelle*. *Clinelle* includes 14 natural extract ingredients in the moisture glow. The list of the natural or plant extracts were given in Table 5.