

## A REVIEW: COSMETIC MARKET IN MALAYSIA AND THE POTENTIAL FOR THE COMMERCIALIZATION OF COCOA ANTIBACTERIAL NIGHT CREAM (NATCOA)

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**ABSTRACT** - *Cosmetics industry has been expanding and growing around the world in both developed and developing countries. A steady economic growth driven by strong domestic demand and private consumption is boosting Malaysia's cosmetics & toiletries industry. The aim of this study is to find out if the antibacterial night cream is viable to be produced and commercialized as a cosmeceutical product in Malaysia. This study will discuss the size and growth trends of the cosmetics industry, the cocoa anti-bacterial night cream (NatCoa) testing, the production cost of the product and the marketing strategies for NatCoa night cream. The finding from the study has shown that in the cosmetics and personal care sector, the skincare and lip make-up product category command the largest market share. The NatCoa night cream is made from natural ingredients. The various tests that have been conducted to ensure the safety of the NatCoa night cream is the strongest proposition in marketing the NatCoa night cream. The proposed total production cost for NatCoa night cream is RM14,181.50. One (1) bottle of NatCoa costs about RM14.80 to produce and can be sold for at least RM30.00. Ordinary imported antibacterial night cream sells for about RM50-RM60/bottle in the retail market. This can be concluded that the NatCoa night cream is highly price competitive with a profit margin of 47 %. The company that will market NatCoa night cream needs to identify the correct market segmentation, the right pricing, and the effective place to market this cocoa antibacterial night cream.*

**Key words:** Cosmetic, cocoa, antibacterial, night cream, commercialization

### INTRODUCTION

The cosmetics industry has been expanding and growing around the world in both developed and developing countries. A steady economic growth driven by strong domestic demand and private consumption is boosting Malaysia's Cosmetics & Toiletries industry, which is expected to grow at a compound annual growth rate (CAGR) of 4.2 % from RM6.4 bn (US\$1.6 bn) in 2018 to RM7.9 bn (US\$2.1 bn) by 2023 (GlobalData, 2018). Report of Country Profile: Cosmetics & Toiletries in Malaysia by GlobalData (2018) reveals that skincare products held the largest value share of 29.3 %, followed by hair care products with 16.9 % in 2018. The make-up category

is set to grow at the fastest value CAGR of 4.71 %, followed by feminine hygiene products with a value CAGR of 4.65 % during 2018-2023.

Malaysia's total trade volume in cosmetics and toiletries is about US\$1.18 billion in 2019 (ITC, 2020). This demand was mainly met by imports. The beauty or make-up and preparation for the care of the skin (including sunscreen and after sun care products) command the biggest market share in the cosmetics and toiletries segment with a total import valued at US\$481 million in 2019. Malaysia's imports of these products are mostly from France, the Republic of Korea and the United States of America.

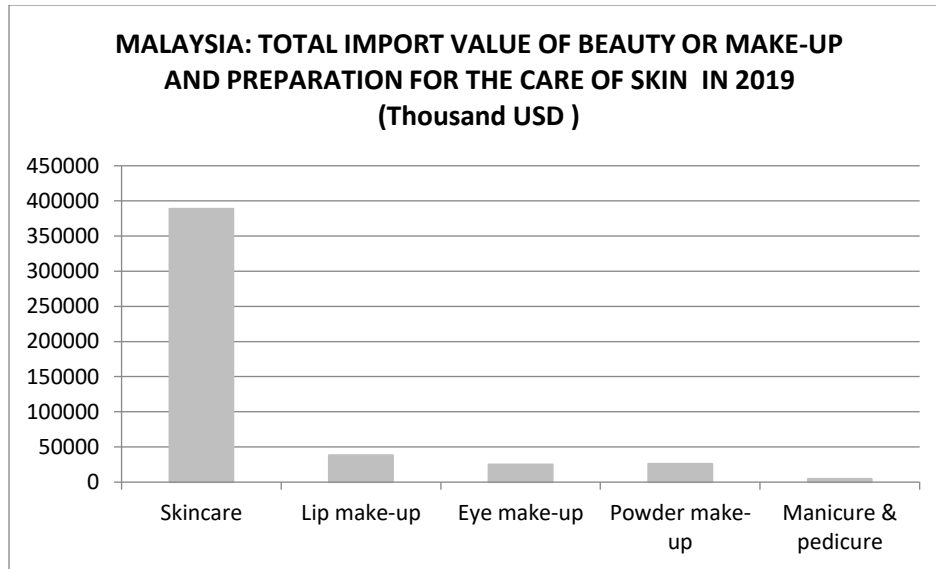


Figure 1: Malaysia's total import value of beauty or make-up and preparation for the skin

Source: ITC calculation based on Department of Statistic Malaysia statistic.

Figure 1 shows the products imported under the beauty or make-up and preparation for the care of the skin segment in 2019. Skincare products command the highest market share with a total import value of US\$388 million. Lip make-up has the second-largest share of the market with imports valued at US\$38.2 million. Powder make-up (including pressed powder compact and blusher/ rouge) comes in third place with US\$25.7 million, while eye make-up preparation imports were US\$24.8 million. Manicure and pedicure are becoming less popular, Malaysia's 2019 import for this product category is about US\$4.3 million compared to 2017 with a total import value of US\$6.6 million.

Data from ITC (2020) indicate that Malaysia imported US\$481 million of skin and beauty products in 2019. This is an increase of 65 % from 2015 which recorded an import value of US\$292 million. The total population size in Malaysia for 2019 is 32.6 million (DOSM, 2019), it is akin to say that each Malaysian spending US\$15 million on skincare and cosmetics in 2019. Hence, the demand for this sector is expected to be optimistic beyond 2020. The Cocoa Anti-Bacterial Night Cream (NatCoa) has a huge potential in the Malaysian market if the right marketing strategies and promotion are being implemented.

### SIZE AND GROWTH TRENDS OF THE COSMETICS INDUSTRY

Despite the concurrent depreciation of Malaysia's currency (Ringgit Malaysia) and the global economic crisis hitting the world since 2018, and slowdowns in government spending, exports to Malaysia have continued to grow over the past five years albeit at a slower rate. Imports of cosmetics products have been undeterred by the slowdown. As growth in Malaysia's economy picks up, cosmetics imports are expected to grow. According to ITC (2020) Malaysia's overall total trade for 2019 was US\$443 billion. China is the top trading partner with 20.6 % market share, followed by Singapore (10.2 %), the United States (7.8 %) and Japan (7.3 %). Malaysia imports 54 % of its goods from East Asia, with the largest share from China. The advanced economies (the United States, EU, and Japan) accounted for 26 % of imports.

According to the U.S Commercial Service (USCS, 2016) there are two categories of domestic manufacturers: multinational companies (MNCs) and domestically owned entities. Major MNCs either have sales offices and/or manufacturing facilities in-country/ or regionally with the majority of them focused on the mass consumer markets. While some local manufacturers produce and own their house brands, a big proportion of them focus on contract/ private label manufacturing. Country guide on Malaysia personal care and cosmetics products report (USCS, 2016) stated that there are 210 cosmetic manufacturers in Malaysia who conform 2 to the Good

Manufacturing Practices (GMP) requirement in accordance to the ASEAN Guidelines for Cosmetics.

In the cosmetics and personal care sector, the skin-care and lip make-up product category command the largest market share. In recent years, a significant number of local skin-care companies are shifting towards having their own private label skin care and color cosmetics brands rather than representing foreign brands (USCS, 2016). This is especially true for the skin-care products targeting the medical professional channels like dermatologists, and plastic surgeons. In Malaysia, the majority of the demand comes from spas and salons, retail stores, and multi-level marketing/direct selling channels .

Increasingly South Korean brands are becoming more popular in the Malaysian skincare market. In fact, South Korean was the leading exporter to Malaysia and represented 16.10 % of the Malaysian skincare market. This was followed by the United State of America with 13.7 %, and France was ranked third with 12.6 % (ITC, 2020). The advent of K-Pop has made all things about South Korea very attractive. In the past 10 years, the United State of America skincare products are the most dominant products in Malaysia. However, recently the South Korean skincare products have shown a tremendous increase by 442 % from 2010 to 2019. The South Korean skin care product has become increasingly acceptable in the Malaysian market.

#### ABOUT THE COCOA ANTI-BACTERIAL NIGHT CREAM (NATCOA)



The cocoa anti-bacterial night cream is formulated by Dr. Zainal Baharum from the Malaysian Cocoa Board. The NatCoa night cream ingredients include cocoa butter as a base cream and enhanced with cocoa extract

to act as anti-bacterial and anti-acne agents. The cocoa butter and goat milk contained in the NatCoa night cream also can help the skin to look younger due to its function as an anti-oxidant and whitening agent. The natural ingredients in the NatCoa night cream include cocoa ABE which is an extract powder from the unfermented cocoa shell. It contained strong antibacterial compounds against Gram -ve and Gram +ve bacteria. It has a pleasant aroma and the extraction process by using an environmentally friendly solvent. Another natural ingredient is goat milk extract. The goat milk extract contains vitamins A and D, which can soften the skin. The Beta-hydroxy acid in goat milk also functions to replace the dead skin cells. Numerous testing has been conducted to test the safety issue of the NatCoa night cream. The test that has been conducted are:

#### Rheology test

Rheology is the study of the test related to the flow of a substance or things especially material in liquid, solid or soft solid in a situation where it reacts with the flow rather than changing the shape of the elastic material. It also refers to the testing viscosity (viscosity). The appropriate viscosity level for cream base is between 20,000 to 200,000 cP (20- 200 Pa.s). The rheological test carried out on NatCoa night cream showed that the zero reading viscosity rate is 42.58 Pa.s (42,580cP) and within the standard range. The appropriate viscosity level for the cream base is between 20,000 to 200,000 cP (20 to 200 Pa.s) so that 80 % of pressure required by the cream started to flow. The results showed that only formulation was within the standard range mentioned (Xie & Jin, 2016).

#### Heavy metals test

Heavy metals are considered harmful to health when they are used in excess in the body. Metal contaminants in cosmetic products can occur either accidentally or intentionally added to the product for beauty purposes. Under the deed of sale of drugs and toxins, heavy metals minimum extent adopted in cosmetic products are as follows:

- a) Arsenic (As) - < 0.01 mg/kg.
- b) Plumbum (Pb) - < 0.004 mg/kg.
- c) Cadmium (Cd) - < 0.001 mg/kg
- d) Mercury – (Hg) - <0.01 mg/kg.

The heavy metals test carried out on NatCoa night cream showed very low heavy metals content and below the standard range. In cosmetic products, there was a limit that was allowed to be used such as for As (5 mg/kg), Pb (10 mg/kg), Cd (unavailable limit) and Hg (0.5 mg/kg). Based on the limitation, these four metals contaminants were below the limit range thus,

the night cream product is safe to be used (Felton, Kales, & Goldman, 2014).

#### **Microbiology test**

Cosmetics products need to be free of pathogenic (harmful) microorganisms which can cause spoilage or chemical change in the product, potentially harming customers. Cosmetics do not need to be sterile, but their preservative system must be able to control harmful microbial contamination introduced during repeated use by end-users. The microbiology test carried out on NatCoa night cream formulated with goat milk showed that it is free of contamination of microorganisms and below the standard range. For the colony-forming unit of yeasts and molds, product formulation was recorded less than 10 CFU/g. The microbiology test carried out on cocoa antibacterial night cream products showed that the product is within the safe range of bacterial count which is less than 1000 CFU/g based on European Union (EU) legislation for the cosmetic products. The microbial contaminants may also affect human health as a result of the formation of microbial metabolites and spoilage of the products (Bagherinejad, et al., 2014).

#### **Skin irritation test**

Chemicals contained in many cosmetic products need to be evaluated for the safety of human skin conditions. For the Draize Irritation test, 3D reconstructed human cornea-like epithelium (RhCE) models, 3D reconstructed human epithelium (RhE) models are used widely applicable in domain cosmetics and personal care products. Draize test also has further use for insecticides, sunscreens and antiseptics. It has been internationally accepted for testing chemicals standard for skin irritation for a long time. The cosmetics and pharmaceuticals industry are currently using silico methods, especially for skin sensitization. The silico method is a computer-based method to predict ocular irritancy. Based on the result, the IDE score was recorded for NatCoa night cream at different concentrations (1 %, 2 %, 5 % and 8 %). The IDE scores were 7.80 (1 %), 9.32 (2 %), 6.82 (5 %) and 9.48 (8 %). The irritation level of the product was categorized based on the highest score achieved regardless of the concentration of the product diluted in distilled water. There were four different levels of irritation score. The irritation score range was (0.0-12.5) as non-irritant, (12.6-30.0) as a mild irritant, (30.1-51.0) as an irritant and (>51.0) as a severe irritant. The IDE score for the night cream was less than 12.5 for all concentrations. Therefore, the night cream was classified as non-irritant and safe to be used (Lee, Hwang, & Lim, 2017).

#### **pH test**

The pH of the skin is an important parameter for the attention of consumers of cosmetic products. The formulation of stability throughout the storage period also can be predicted by the determination of pH. The pH test result for the night cream formulation of NatCoa is from 4.0 to 5.0. For the night cream usually, the standard pH is 4.0 and above. pH 7 is the best but hard to achieve because the night cream contains fats that are in acidic condition. Thus, the night cream formulation of NatCoa recorded is the best because the pH is within the standard range (Moraes, 2018).

#### **Stability test**

Centrifuging test is carried out to test the stability of the night cream. The stability of an emulsion is highly concerned with the maintenance of internal dispersion in the external phase without effective changes occurring in both phases. The formulation of NatCoa night cream showed no separation of the emulsion after the observation of the centrifuging process. Thus, NatCoa night cream is considered a stable product (Alam, Ali, Alam, Anwer, & Safhi, 2015).

#### **Sensory panel test**

The sensory panel test was analyzed through statistical tests by using two samples t-test to determine which week that can be seen as to the effectiveness of the product. A t-test is a type of statistical test that is widely used in statistical hypothesis tests in any study to compare the means of two groups. In this study, the parametric method is used to satisfy the conditions of normality, equal variance and independence. Based on the statistical analysis, only three parameters showed significantly different values, which are variance, entropy and homogeneity. For variance, p-values decreased significantly to 0.012 at week 1 which indicated a reduction in roughness compared to the initial condition. For entropy, p-values increased significantly to 0.010 at week 5 which indicated highly hydrated skin compared to the initial condition. For homogeneity, p-values increased significantly to 0.000 at week 5 which indicated highly hydrated skin compared to the initial condition. The effectiveness of the product was proved when the p-values were less than 0.05 using MINITAB software version 14.0. Therefore, the NatCoa night cream formulation is the best choice (Kim, 2015).

**PRODUCTION COST OF THE PRODUCT**

Table 1: The price compositions of cocoa antibacterial night cream with extract rose based on phases for 70 g.

Name	Function	Weight (g)	Price (RM)
<b>Phase A</b>			
Water	Vehicle	50.00	0.00
Carbomer 940	Thickener	0.80	0.20
Cocoa-ABE	Antibacterial	1.00	2.13
<b>Phase B</b>			
Cocoa butter	Antioxidant	5.00	0.15
Emulium delta	Emulsifier	4.00	0.64
Goat milk extract	Whitening	5.82	0.43
<b>Phase C</b>			
Polysorbate 20	Emulsifier	2.00	0.64
Phenoxyethanol	Preservative	0.5	0.10
Extract Rose	Fragrance	0.5	0.15
TEA	Surfactant	0.5	0.018
Bottle	Packaging	1	3.20
<b>TOTAL COST</b>			<b>7.658</b>

Table 1 shows the price compositions of cocoa antibacterial night cream with extract rose based on

phases for 70 g. The total cost for producing 70 g of NatCoa night cream is RM7.658.

	Production for 1,000 bottles (RM)
<b>Raw material</b>	
Cocoa butter	30
Cocoa ABE	1,788.50
<b>Production cost (OEM)</b>	<b>13,000</b>
<b>TOTAL PRODUCTION COST</b>	<b>14,818.50</b>
<b>COST PER BOTTLE RM14.80</b>	

Figure 2: Production cost per bottle

Figure 2 shows the production cost of NatCoa night cream per bottle. The total raw material cost is RM1,818.50 and the total production cost through the Original Equipment Manufacturer (OEM) is RM13,000 for 1,000 bottles of NatCoa night cream. Hence, the total production cost for NatCoa night

cream is RM14,181.50. One (1) bottle of NatCoa costs about RM14.80 to produce and can be sold for at least RM30.00. Ordinary imported antibacterial night cream sells for about RM50-RM60/bottle in the retail market. The NatCoa night cream is highly price competitive with a profit margin of 47 %.

**MARKETING STRATEGIES FOR NATCOA NIGHT CREAM**

**Market Segmentation**

To develop and implement the best possible strategy, the companies that undertake the NatCoa night cream as their products need to segment the heterogenous market into smaller segments. Cosmetics according to Cok (2015) companies need to target based on demographics or specific needs (such as luxury products or natural products). For example, smaller companies such as The Face Shop and Mary Kay only

target a specific market segment, big multinational companies such Procter & Gamble own multiple brands to cover all possible market segments. The company that will market NatCoa night cream should identify their specific market segments whether luxury, premium or mass market.

### Pricing

Price is a very important indicator, as it is usually considered as an indicator of quality. This is especially true in Asian countries, where consumers are very skeptical about product quality, and tend to rely on price to infer a product's quality (Paliwoda, Andrews, & Chen, 2013). As in any industry, pricing in the cosmetics industry in Malaysia varies greatly on the brand. The luxury segment has the highest pricing (e.g. Estee Lauder, Sulwhasoo, Lamer) usually ranging from RM300 and above. The premium segment has middle-priced products (e.g. Laineige, IOPE, Mary Kay) with price tags ranging from RM80 to RM300. Finally, the mass market segment has prices of not more than RM100. Hence, the NatCoa night cream needs to have a correct pricing that suits the targeted market segment.

### Place

Distribution channels for cosmetics in Malaysia vary greatly from one brand to another. Mass market skincare products are usually sold in supermarkets and pharmacies. High-end skincare products are usually sold in department stores and stand-alone retail stores or kiosks. E-commerce marketplace is becoming increasingly popular in Malaysia cosmetics markets such as Shopee and Lazada. Major skincare brands have established their own official store on these two popular platforms as one of their marketing strategies. There is a high prevalence of cosmetics and toiletries being sold via the multi-level marketing (MLM)/direct sales distribution channel in Malaysia (USCS, 2016). Typically, the MLM companies have their own private labels. They either buy in bulk or repackage the local and/or foreign-sourced products. Some of the cosmetic/ toiletries/ personal care MLM corporations in Malaysia are Amway, Avon, Cosway, Nu Skin, Nutri-Metics and Mary Kay.

### CONCLUSIONS

The NatCoa night cream is made from natural ingredients. The various tests that have been conducted to ensure the safeness of the NatCoa night cream are the strongest proposition in marketing the NatCoa night cream. Consumers are concerned about the safety of products that they use, especially currently many skincare products are not tested in the market. However, the NatCoa night cream needs to be marketed correctly. The company that will market NatCoa night cream needs to identify the correct market segmentation, the right pricing and the effective place to market this cocoa anti-bacterial night cream.

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