



## **EXPORT COMPETITIVENESS OF THE MALAYSIAN PROCESSED FOOD IN THE MIDDLE EAST MARKET**

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### **ABSTRACT**

*This study intends to determine the competitiveness of the Malaysian processed food in the Middle East market using Constant Market Share (CMS) and Business Portfolio Analysis. The results from the CMS analysis revealed that the gain in export for beverages, cookies and bakeries, and sauces and seasonings have been due to the competitive effect. For chocolates, the gain in exports was due to the market size effects. From the business portfolio analysis using the General Electric (GE) Model, chocolates, beverages, and cookies and bakeries should protect the position and concentrate on maintaining the strength of the products. In terms of marketing strategy, the producers should consider marketing approach of choosing, providing, and communicating the value in order to improve the competitiveness of the processed food products.*

**Keywords:** Processed food, competitiveness, constant market share, general electric model

### **INTRODUCTION**

The processed food industry has played an important role in Malaysian economy. In 2006, processed food products contributed 10.1 percent of the manufacturing value-added with the world market share of 2.1 percent. The products were exported to more than 80 countries with an average annual export value of more than RM 5 billion (MIDA, 2007), a major export market of which is the Middle East as presented in Table 1.

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**Table 1: Exports of Malaysia's Processed Food to the Middle East (US\$'000)**

Year	Beverages	Sauces and Seasonings	Cookies and Bakeries	Spices	Chocolates
2002	335	3866	10622	471	3598
2003	433	5902	12240	493	5253
2004	628	6363	15360	844	9834
2005	846	6246	17504	445	8072
2006	1585	5105	18224	236	8992

Source: Trade Map

The Middle East had a total population of 330 million in 2008 with a large proportion of Asian expatriates having similar tastes and preferences to that of Malaysians. With the image of Malaysia as a *halal* food producer, it gives an advantage to the Malaysian processed food manufacturers to expand the export markets. This study therefore aims to measure and improve the competitiveness of the Malaysian processed food in the Middle East market. The processed food that have the potential, as shown in Table 1, include beverages, sauce and seasonings, cookies and bakeries, spices, and chocolate. The results could be employed to strategies in improving the competitive position in the Middle East markets.

## METHODOLOGY

There are several methods that can be employed to measure the export competitiveness of a product. The two most commonly used methods are the Constant Market Share (CMS) and Business Portfolio Analysis. In this study, CMS was used.

### Constant Market Share

The CMS model as a methodological tool was first applied in an analysis of the export growth of a country by Tyszynki (1971). A detailed discussion of the method and its possible applications were given by Richardson (1971). The model has been applied to assess the export performance of Malaysia in several studies by Ariff (1984), Alias and Habibah (1993) and Mad Nasir et al. (1998). The merit of the CMS is that it considers the market size and share and decomposes the gain or loss of the market size and share in terms of the overall expansion of the market and the competitiveness of an industry.

The generalised CMS model can be expressed as:

$$q^1 - q^0 = rq^0 + (r_i - r)q^0 + (q_i^1 - q_i^0 - r_i q_i^0)$$

where

- q = total exports;
- q<sub>i</sub> = export to the Middle East markets;
- r = rate of growth of total world exports;
- r<sub>i</sub> = rate of growth of world exports to the Middle East markets;
- 0 = initial period; and
- 1 = second period.

The first term on the right hand side of the identity is the world trade or size of market effect, and it measures the hypothetical increase in a country's exports if its exports are to grow at the same rate as world exports. Hence,  $rq^0$  may alternatively be viewed as the increase or decrease in a country's exports due to the expansion (contraction) in world trade under the assumption that initial market share is maintained. The second term is the market distribution effect, and it measures the extent to which a country's exports are concentrated in the markets. The final term is the competitiveness effect, and measures the difference between actual increase in a country's actual exports and the increase that would have occurred if a country maintained its market share in those markets. A positive (negative) value of the residual indicates an increase (decline) in competitiveness.

### **Business Portfolio Analysis**

Two techniques for evaluating a business portfolio are the Boston Consulting Group Growth and Share Matrix (BCG) and General Electric Industry Attractiveness and Business Strength matrix (GE) (Gilbert et al., 1998). The GE Model however, is more attractive since it can incorporate more information about market opportunities and competitive positions. The model emphasises all the potential sources of strength, and all of the factors that influence the long term attractiveness of a market, not just its growth rate and market share, but also by using the product attractiveness and business strength indicators. As illustrated in Table 2, the product attractiveness is a composite index comprising market size, market growth, profitability, cyclical, ability to recover from inflation and world scope. The business strength on the other hand is a composite index made up of such factors as market position and competitive strengths.

**Table 2: Components of Product Attractiveness and Business Strength of GE Model**

<b>Product Attractiveness</b>	<b>Business Strength</b>
Market size	<b>Market position</b>
Market growth	Domestic market share
Profitability	World market share
Cyclical	Share growth
Ability to recover from inflation	Share compared with leading competitors
World scope	
	<b>Competitive strength</b>
	Quality leadership
	Technology
	Marketing
	Relative profitability

Source: Lanning & Michaels (1998)

The index was then categorised into nine cells, which were divided into three zones (Figure 1). The three cells in the upper-left corners (called the A zone) indicate a strong in both product attractiveness and business strength and where a company should "build

its share”. The diagonal cells stretching from lower left to the upper right (called the B zone) indicate a medium in both product attractiveness and business strength. A company should pursue selectivity and manage the earnings from the products in this zone. The three cells in the lower-right corner (called the C zone) indicate a low in both product attractiveness and business strength. A company should give serious thought to harvesting or divesting in these product categories. Various combinations of industry attractiveness and business strength suggest different level of competitiveness. In general, a product with high industry attractiveness and business strength is more competitive than a product with medium and low industry attractiveness and business strength.

		BUSINESS STRENGTH		
		Strong	Average	Weak
PRODUCT ATTRACTIVENESS	High	<b>A</b>	<b>A</b>	<b>B</b>
	Medium	<b>A</b>	<b>B</b>	<b>C</b>
	Low	<b>B</b>	<b>C</b>	<b>C</b>

**Figure 1: The GE Model Matrix**

The data to analyse the CMS analysis and GE model was obtained from the World Trade Atlas and Trade Map which were subscribed by the MATRADE library. The data was based on Harmonised System (HS) 4 digits from year 2002 to 2006; 1903 for snacks, 2009 for beverages, 2103 for sauce, 1905 for cookies and bakeries, 1806 for chocolate and 0903-0910 for spices.

## **RESULTS AND DISCUSSION**

### **Constant Market Share**

The CMS analysis covered the 2002-2006 periods, which was divided into three sub-periods, Period I (2002-2004), Period II (2004-2006) and Period III (2002-2006). As mentioned, five categories of processed food were analysed which include beverages, sauce and seasonings, cookies and bakeries, spices, and chocolate.

### **Beverages**

As shown in Table 3, Malaysia's share of the world exports of beverages increased from 1.5% in Period I to 3.4% in Period II. The gain in market share was due to the competitiveness of the industry. Since the analysis is made on the Middle East market as a whole, there is no distribution effect. The size of market effect is explained by the difference between the actual exported in Period I compared to the hypothetical quantity exported in Period II. Hence, the difference which is equals to US\$ -65.1 thousand is the market effect. The competitive effect is equal to actual exports. The competitive effect is equal to actual exports in Period II less Malaysia's hypothetical exports in Period II at the Period I market share and the competitive effect is US\$358.1 thousand.

Between 2004 (Period II) and 2006 (Period III), Malaysia's export share increased from 0.04% to 0.1% respectively. The quantity exported increased US\$957 thousand due to the competitiveness of the industry.

### **Sauces and Seasonings**

Malaysia's export of sauce and seasonings revealed that the quantity decline in all 2002 (Period I), 2004 (Period II) and 2006 (Period III) (Table 4). The trend of Malaysia's market share of sauces also showed a consistent declining from 1.6% in 2002 (Period I), 1.4% in 2004 (Period II) and 1.0% in 2006 (Period III) as shown in Table 4. This export loss was due to the non-competitiveness of the industry. Comparing between 2002 (Period I) and 2004 (Period II), the loss in exports US\$ -3017.7 was due to the size of market effect and true for the analysis for Period II and III.

**Table 3: Decomposition of Beverages Export Gain/loss between Periods in the Middle East Market (US\$'000)**

	Comparison Between Periods I&II		Comparison Between Periods II & III		Comparison Between Periods I & III	
	Period I 2002	Period II 2004	Period II 2004	Period III 2006	Period I 2002	Period III 2006
<b>Total World Export</b>	22,935	18,475	1,567,426	1,598,253	1,205,056	1,598,253
<b>Total Malaysia Export</b>	335	628	628	1,585	335	1,585
	(A1)	(A2)	(A1)	(A2)	(A1)	(A2)
<b>Malaysia's Market share (%)</b>	1.461	3.399	0.040	0.099	0.028	0.099
<b>Hypothetical Malaysia's Export in Period II at the same overall market share in Period I</b>		269.9		640.4		444.3
		(B)		(B)		(B)
<b>Hypothetical Malaysia's Export in Period II at the Period I market share in each individual market</b>		269.9		640.4		444.3
		(C)		(C)		(C)
<b>Gain for Malaysia Total for Malaysia (A2-A1)</b>	(US\$'000)	%	(US\$'000)	%	(US\$'000)	%
	293	100	957	100	1250	100
<b>Size of Market Effect (B-A1)</b>	-65.1	22.2	12.4	1.3	109.3	8.7
<b>Distribution Effect (C-B)</b>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Competitive Effect (A2-C)</b>	358.1	-122.2	944.6	98.7	1,140.7	91.3

**Table 4: Decomposition of Sauces and Seasonings Export Gain/loss between Periods in the Middle East Market (US\$'000)**

	Comparison Between Periods I & II		Comparison Between Periods II & III		Comparison Between Periods I & III	
	Period I 2002	Period II 2004	Period II 2004	Period III 2006	Period I 2002	Period III 2006
<b>Total World Export</b>	72,754	51,846	51,846	37,219	72,754	37,219
<b>Total Malaysia Export</b>	3,866	6,363	6,363	5,105	3,866	5,105
	(A1)	(A2)	(A1)	(A2)	(A1)	(A2)
<b>Malaysia's Market share (%)</b>	1.6	1.4	1.4	1.0	1.6	1.0
<b>Hypothetical Malaysia's Export in Period II at the same overall market share in Period I</b>		848.3		532.9		609.0
		(B)		(B)		(B)
<b>Hypothetical Malaysia's export in Period II at the Period I market share in each individual market.</b>		848.3		532.9		609.0
		(C)		(C)		(C)
<b>Gain for Malaysia</b>	(US\$'000)	%	(US\$'000)	%	(US\$'000)	%
<b>Total for Malaysia (A2-A1)</b>	2497.0	100.0	-1258.0	100.0	1239.0	100.0
<b>Size of Market effect (B-A1)</b>	-3017.7	-120.9	-5830.1	-463.4	-3257.0	-262.9
<b>Distribution Effect (C-B)</b>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Competitive Effect (A2-C)</b>	5514.7	220.9	4572.1	363.4	4496.0	362.9

### **Cookies and Bakeries**

Table 5 shows that Malaysia's export of cookies and bakeries increased all of the Periods I, II and III and this has led to the increasing market share 5.5%, 10.8% and 17.0% respectively. Comparing between Periods I and II, the gain in the market share of US\$4698 thousand was mainly due to the competitive effect US\$75680 in 2002 and the market size effect US\$ -2870. Between Periods II and III, the gain in exports was about the same as in between Periods I and II. The gain in US\$2864 thousand was mainly due to the competitive effect (US\$6,684.7 thousand) and the size of market effect of US\$ -3820.7 thousand.



**Table 5: Decomposition of Cookies and Bakeries Export Gain/loss between Periods in the Middle East Market (US\$'000)**

	Comparison Between Periods I &II		Comparison Between Periods II &III		Comparison Between Periods I &III	
	Period I 2002	Period II 2004	Period II 2004	Period III 2006	Period I 2002	Period III 2006
<b>Total World Export</b>	195,498	142,873	142,873	107,334	195,498	107,334
<b>Total Malaysia Export</b>	10,662	15,360	15,360	18,224	10,662	18,224
	(A1)	(A2)	(A1)	(A2)	(A1)	(A2)
<b>Malaysia's Market share (%)</b>	5.5	10.8	10.8	17.0	5.5	17.0
<b>Hypothetical Malaysia's Export in Period II at the same overall market share in Period I</b>		7792.0		11539.3		5853.7
		(B)		(B)		(B)
<b>Hypothetical Malaysia's Export in Period II at the Period I market share in each individual market</b>		7792.0		11539.3		5853.7
		(C)		(C)		(C)
<b>Gain for Malaysia</b>	(US\$'000)	%	(US\$'000)	%	(US\$'000)	%
<b>Total for Malaysia (A2-A1)</b>	4698	100	2864	100	7562	100
<b>Size of Market effect (B-A1)</b>	-2,870.0	-61.1	-3,820.7	133.4	-4,808.3	-63.6
<b>Distribution Effect (C-B)</b>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Competitive Effect (A2-C)</b>	7,568.0	161.1	6,684.7	-233.4	12,370.3	163.6

### Spices

Malaysia's total export increased from US\$471 in Period I to US\$844 in Period II; however the total decreased US\$236 in Period III. The gain was US\$373 thousand due to the competitiveness of the industry rather than the size of the market effect of US\$448.1 thousand and US\$ - 75.1 thousand.

The loss has caused the market share to decrease to 0.5% in Period III. It shows that the market for spices was not competitive at -79.3% and the size of market effect -20.7% in comparison between Periods I and III. The distribution effect is equal to zero because of the analysis which is for the whole market in Middle East (Table 6).

**Table 6: Decomposition of Spices Export Gain/loss between Periods in the Middle East Market (US\$'000)**

	Comparison Between Periods I &II		Comparison Between Periods II &III		Comparison Between Periods I &III	
	Period I	Period II	Period II	Period III	Period I	Period III
	2002	2004	2004	2006	2002	2006
<b>Total World Export</b>	56,995	47,912	47,912	51,104	56,995	51,104
<b>Total Malaysia Export</b>	471	844	844	236	471	236
	(A1)	(A2)	(A1)	(A2)	(A1)	(A2)
<b>Malaysia's Market share (%)</b>	0.8	1.8	1.8	0.5	0.8	0.5
<b>Hypothetical Malaysia's export in Period II at the same overall market share in Period I</b>		395.9		900.2		422.3
		(B)		(B)		(B)
<b>Hypothetical Malaysia's export in Period II at the Period I market share in each individual market</b>		395.9		900.2		422.3
		(C)		(C)		(C)
<b>Gain for Malaysia</b>	(US\$'000)	%	(US\$'000)	%	(US\$'000)	%
<b>Total for Malaysia (A2-A1)</b>	373	100	-608	100	-235	100
<b>Size of Market effect (B-A1)</b>	-75.1	-20.1	56.2	9.2	-48.7	-20.7
<b>Distribution Effect (C-B)</b>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Competitive Effect (A2-C)</b>	448.1	120.1	-664.2	-109.2	-186.3	-79.3

### **Chocolates**

The trend of Malaysia's market share of chocolate increased between Periods I and II and decreased in Period III with the market share at 10.3%, 14.8% and 12.6% respectively. The gain in exports between Periods I and II was due to the size of market effect 50.1% and competitive effect 49.9% (Table 7). The declining between Periods II and III in the export showed the non-competitiveness of the chocolates industry.

**Table 7: Decomposition of Chocolate Export Gain/loss between Periods in the Middle East Market (US\$'000)**

	Comparison Between Periods I &II		Comparison Between Periods II &III		Comparison Between Periods I &III	
	Period I	Period II	Period II	Period III	Period I	Period III
	2002	2004	2004	2006	2002	2006
<b>Total World Export</b>	33,712	60,639	60,639	70,044	33,712	70,044
<b>Total Malaysia Export</b>	3,462	8,981	8,981	8,827	3,462	8,827
	(A1)	(A2)	(A1)	(A2)	(A1)	(A2)
<b>Malaysia's Market share (%)</b>	10.3	14.8	14.8	12.6	10.3	12.6
<b>Hypothetical Malaysia's export in Period II at the same overall market share in Period I</b>		6,227.2		10,373.9		7,193.1
		(B)		(B)		(B)
<b>Hypothetical Malaysia's export in Period II at the Period I market share in each individual market.</b>		6,227.2		10,373.9		7,193.1
		(C)		(C)		(C)
<b>Gain for Malaysia</b>	(US\$'000)	%	(US\$'000)	%	(US\$'000)	%
<b>Total for Malaysia (A2-A1)</b>	5519	100	-154	100	5365	100
<b>Size of Market Effect (B-A1)</b>	2,765.2	50.1	1,392.9	904.5	3,731.1	69.5
<b>Distribution Effect (C-B)</b>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Competitive Effect (A2-C)</b>	2,753.8	49.9	-1,546.9	-1,004.5	1,633.9	30.5

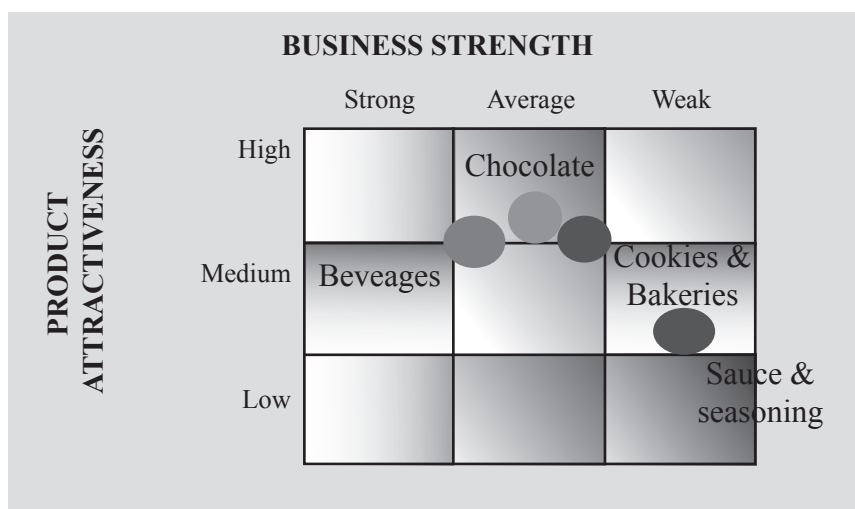
### **Business Portfolio Analysis - General Electric Model**

As mentioned earlier, the industry attractiveness is a composite index comprising market size, market growth, profitability, cyclicity, ability to recover from inflation and world scope, while the business strength is a composite index made up of such factors as market position and competitive strengths. Due to limited data, a modified indicator of the GE Model is shown in Table 8. Each indicator was assigned a weight based on secondary data and discussion with industry stakeholders.

**Table 8: Weightage of Indicators in the GE Model**

<b>Dimension</b>	<b>Indicator</b>	<b>Weightage</b>
<b>Business Strength</b>	Market Size	0.2
	Market Growth	0.5
	Technological Requirement	0.3
	<b>Total</b>	<b>1.0</b>
<b>Product Attractiveness</b>	Market Share	0.2
	Product Quality	0.4
	Material Supply	0.2
	Competency	0.2
	<b>Total</b>	<b>1.0</b>

Based on the business strength and the product attractiveness indicators, a bubble graph for the GE Model was plotted as illustrated in Figure 2. Each bubble represents a product category. The processed food products that have strength in product attractiveness and business strength were chocolates, cookies and bakeries and beverages. This suggests that the products were strong in all element of business strength and product attractiveness which are market size, market growth, technological requirement, market share, product quality, material supply and competency.



**Figure 2: Processed Food Product Zoning in the Middle East Market**

## CONCLUSIONS

This study attempted to determine the competitiveness of the processed food products in the Middle East market. The results from the CMS analysis revealed that the gain in export for beverages, cookies and bakeries, and sauces and seasonings were due to the competitive effect. This indicates that the increase in those processed food products was due to the rising in world demand and the ability of Malaysia to penetrate to markets with high demand growth. For chocolates, the results indicated that the size of market effect was the most significant growth factor compared to distribution and size of market effects, suggesting that the growth of chocolates exports was due to the rising world demand. In terms of marketing strategy, analysis from the GE Model, three product categories which were chocolates, beverages, and cookies and bakeries should protect the position and concentrate on maintaining the strength of the products. Market research on consumers' tastes and preferences could assist in the expansion of the overall size of the Middle East market.

The results gathered from the GE and CMS showed that the Malaysian processed food products have the potential to be exported to the Middle East. The marketing strategies below are suggested to improve the market penetration in the Middle East market:

**Choosing the Value** – the processed food producers in Malaysia should be able to identify relevant market segments. The consumers who need products within any given product categories are diverse, but not everybody wants the same criteria from the same product category. Thus, the producers should recognise the group(s) of customers with similar sets of needs. Normally the younger generation tends to be more open and are willing to try new products. Therefore, the producers must develop a product that will satisfy the needs of the consumers in the market segment which has been identified and selected, provide the product at a price that customers are willing to pay and create a distribution system to make the product available to the customer, at the right place, at the right time and at the right price.

**Providing the Value** – this involves the identification of critical success factors of companies that are successful in the export markets, especially in the Middle East market.

**Communicating the Value** – at present, food products from Malaysia are marketed by individual brands, that is, each entrepreneur markets his/her own brand. Since market promotion and advertisement are costly, a possible market penetration strategy is to have a global brand, in which all Malaysian food products come under one brand or to utilise the existing brand which is well-known throughout the Middle East market.

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