3.0 CAN COATING INDUSTRY IN MALAYSIA

As the industries evolve over time, so do the competitive dynamics between firms in the industry. Hitt, Ireland and Hoskisson (1999), wrote that analysis in industry evolution is important in determining the type of competition and the type of competitive actions that are emphasised. According to the authors, there are three general stages of industry evolution, which are usually relevant to studies on competitive dynamics. They are the emerging/introduction stage, growth stage and mature stage. Based on this framework, a similar analysis is carried out on the can coating industry in Malaysia.

3.1 Introduction Stage (pre - 1980s)

The can coating industry in Malaysia was only active in the late 1980s. Prior to that, most coatings for the cans were imported from countries like the USA, UK and other parts of Europe. The first company in Malaysia, to invest in the local production of can coatings was Coates Brothers in 1957. However, back then the company was only manufacturing external coatings, which comprised of inks, basecoat and overprint varnishes for cans. Internal coatings for cans were predominantly imported.

Other suppliers of can coatings during this period included BASF, Dexter, ICI and International Paints. All the coatings were predominantly imported. As these coatings were usually imported directly by the can manufacturers themselves, the actual market size for the can coatings during this period was difficult to establish.

3.2 Growth Stage (1988 – 1994)

The Malaysian economy took a turn towards recovery in 1988, after the 1984 - 1987 recession. In tandem with this, the metal can industry also experienced tremendous growth, especially between 1988 – 1991, where the industry grew by double digits which averaged 18.6% annually. This was due to the active growth in investment for food processing and packaging business by major players like Lam Soon, Nestle and Premier Milk. It was also during this period, that the consumers began to prefer beer and beverages in cans rather than the conventional glass bottles. Such events, motivated the investment of new production lines as well as new factories by the can-makers.

Attracted by the fast growing metal can industry in Malaysia, more foreign suppliers of can coatings were seen establishing local agencies to distribute their coatings to the local can-makers. Major foreign based companies such as Midland Dexter, PPG, International Paints and BASF were a few coating suppliers which competed aggressively during this era to gain a share of the market.

3.3 Mature Stage (1994 – 1998)

The period between 1994 to 1998, was a turbulent one for the whole metal can industry. Multiple events such as product substitute, cans dumping by neighbouring countries, the Asian financial crisis including health and safety issues with regards to the coatings, had impeded the growth of the industry.

Beginning from 1994, polyethylene (PET) bottles had begun to replace the aluminium cans for soft drinks. This is a trend which is still prevalent till today as it is seen to be trendy and convenient. Similarly, plastic containers are also increasingly replacing the old paints cans made from tin.

This was followed by serious cans dumping from our neighbouring countries, such as Indonesia and Thailand, in 1996. The cans which were dumped to Malaysia, were mostly the aluminium beer and beverages cans, as well as food cans for sardines and tuna.

Just as the industry was bound to recover after the Malaysian government controlled the dumping of cans, the economy was hit by the financial crisis in the mid 1997. The full impact of the crisis was felt in 1998, where a decline in the whole industry was observed.

The can coatings industry which depended heavily on the performance of the metal can industry was also similarly hit by the events mentioned above. This was obvious from the collapsed and acquisition bid by several major players in 1997 and 1998. Firstly, in 1997 PPG acquired the can coatings unit of BASF and Courtaulds (formerly International Paints). This was followed by the acquisition of Coates Brothers by Valspar, an American company which has a strong foothold in the North America continent. Subsequently in 1998, Valspar again acquired the can coatings unit of Dexter. With such acquisitions, the can coatings industry world-wide is now being dominated by three major players, namely Valspar, ICI Packaging and PPG (in descending order).

3.4 Market Structure

Under the market structure section, two key elements are discussed, namely the market segment and market share of various players in each of the market segment. Boone and Kurtz (1998) highlighted that these two elements are important, as firms must target a number of segments that match its capabilities. Understanding the strength of the competitors, allows a firm to maximise sales opportunities within the limitations of its resources.

3.4.1 Market Segments

The metal packaging industry can be categorised into two broad uses, namely, manufacture for consumer packages and for industrial packaging. Consumer packages include packs for food, beverage and domestic products. Industrial packaging encompasses hazardous goods such as acid, chemicals and gases. Such packaging utilizes metal pails and steel drums which will not be covered under this study.

The type of consumer packages can be categorised into the following segments:

a. 2-pc DWI (draw-wall-iron) Cans
b. 3-pc Beverage Cans
c. Beverage Ends
d. 3-pc Food Cans
e. General Line Cans
f. Caps and Closures

A brief description on the market situation of each of the above mentioned segments, is furnished in the following with reference to Table 1. The table, is compilation of the results obtained from the 1999 customer survey on the consumption of can coatings and cans production in Malaysia. Appendix C also elaborates on the end-usage of cans produced in each of the individual segment.

Table 1: Number of Cans and Caps Produced in Malaysia (million / %)

Type of Metal Cans	1996		1999	
2-Piece Aluminium Beer and Beverage Cans	250m	25.0%	810m	42.6%
3-Piece Beverage Cans	42m	4.0%	57m	3.0%
Beverage Ends	430m	43.0%	630m	33.1%
Food Cans	205m	20.2%	280m	14.7%
General Line Cans	55m	5.5%	100m	5.3%
Caps and Closures	23m	2.3%	25m	1.3%
Total	1005m	100%	1902m	100%
Average Annual Growth Rate	9%			

Source: ICIPM Customer Market Survey 1999

Table 2: Production of Metal Cans in 1989 – 1991 (million)

Period	1989	1990	1991
Total unit	657m	802m	1025m
Average Annual Growth Rate	18.6%		

Source: MTCMA 1993

a) *2-pc DWI Cans:*

The 2-pc DWI cans are originally designed for beer and carbonated soft drink packs. It is so-called 2-pc as the whole can consists of 2 major parts; the can body and the can end.

The base metal can be made from steel or aluminium. In Malaysia, the first locally produced 2-pc cans in 1987 were made from steel. However, since 1989 the industry began moving towards aluminium 2-pc cans, with the setting up of new production lines which use aluminium base metal and replacing the old steel line with aluminium line as well. Today, there are 4 production lines which produce 2-pc aluminium cans, with an installed capacity of approximately 1.8 billion cans annually. According to results from the 1999 Customer Market Survey, the 2-pc DWI cans currently dominate about 43% of the total can production in Malaysia.

So far, only part of the installed capacity is being utilised. The quantity of 2-pc cans produced in Malaysia last year was only 810 million cans. Of this total, two-third was produced by the Kian Joo Group, while Carnaud MetalBox (CMB) manufactured the remaining. In short, this market segment is monopolised by only 2 players, namely Kian Joo and CMB.

In respect of the coatings, the ICI Packaging dominated the supply of the internal coatings (with 100% market share), whereas the external coatings are jointly supplied by PPG, Coates, Sicpa, Toyo Inks, INX Sakata and Sakuranomiya. A more stringent performance is required from the internal coatings, thus it shall be the focus of the discussion.

The 2-pc cans market is highly technical and risky. Due to the demanding manufacturing process of the cans and the constant down-gauging of the aluminium base metal by can manufacturers in order to cut material cost, the requirement for better protection of the internal coating is also increasing. In addition, a wide array of drinks, both aggressive (example, tamarind juice, lemonade, tea etc.) and non aggressive (such as beer, soya milk, carbonated soft drinks) type are now being packed in such cans. Therefore, the internal coating for such cans must not only be durable enough to protect the aluminium from cans handling and attack by the drinks, but safe enough to be in contact with these drinks. This is because 1 litre of coating is able to coat approximately 1200 cans. Imagine the risk and damage that is suffered if the internal coating is not performing to expectation. Hence, such coating is mainly supplied by major coating suppliers with technical expertise and financial means to bear such risk, such as ICI Packaging, Valspar and PPG.

However, despite the high risk involved, the coating suppliers could not demand a high price for the internal coating. This is mainly due to the fact that the 2-pc can drinks are commodity products, which could not be sold at a premium price. Moreover, as the 2-pc can market occupies almost half (about 43%) of the total cans produced in Malaysia, coating suppliers often resort to price war to penetrate into the market. To these suppliers, market share and volumes to fill up their production capacity take precedent to profit margin. Besides these, cans dumping from neighbouring countries at one stage, pressed the price down further.

b) *3-Pc Beverage Cans*

The 3-pc beverage cans are commonly used for pack such as soya bean milk, chrysanthemum tea, chocolate drinks, coffee and many more. However, its usage for such drinks are declining as more and more beverage companies are switching over to 2-pc DWI cans. The most recent survey for 1999 has shown these cans constitute only 3% of the total cans produced during the whole year. However, the

number of 3-pc beverage cans produced, are still higher than in the previous years (e.g. 1996 as shown in Table 1) due to the overall market size expansion in the metal packaging industry.

The 3-pc beverage cans are considered as the cash cows for the metal packaging industry. The product has reached its maturity stage where growth in the market is rather slow and profit levels relatively low. As more beverage manufacturers prefer the 2-pc DWI cans, can makers have cut down investment in this area and just harvest the cash that is brought in by this product.

Similarly, the coating manufacturers have also stopped extensive research and development in this field, preferring to sell whatever available products, which may best suit the industry. In addition, competition in this segment is not active due to its low volume and almost stagnant growth. The industry has anticipated that this segment will not be in existence in the near future.

c) *Beverage Ends*

Beverage ends are part of the components required to make a complete 2-pc DWI or 3-pc beverage can. They are made of aluminium and are specially designed with a tab attached to them. These ends are commonly called the "stay-on-tab" easy open ends (abbreviated as SOT EOE).
The production for beverage ends occupies about 33% of the total can production. This segment has an annual growth of approximately 13.5% since 1996. Further growth is still expected once the local metal packaging industry stops the import of such ends from Taiwan and the USA due to uncompetitive pricing.

Besides its end-use in the beverage cans, such ends can also be used for food cans. Such usage is currently very popular overseas, particularly in developed countries. This is because the EOE is easily opened without having to use any can

opener. All it requires is just a push on the tab to lift the whole end up from the rim of the can. This method suits the modern and busy lifestyle of present consumers. With the introduction of such usage, further growth can be expected.

However, this segment is most hit by the technological threat in the form of a type of "endocrine disruptor" which is found in most can coatings, but particularly high in the organosol coating which is used for the internal of these ends. Eventhough, extensive research is being carried out to replace the organosol coating, there is none at this moment that can match the flexibility and durability of the organosol. Despite this threat, growth is still forecasted but expectation of the ends' technical performance will be compromised.

d) *3-pc Food Cans*

Similar to the 3-pc beverage can, the 3-pc food can also constitute of 3 parts, the can body, bottom end and top end.

About 15% of the total cans produced in 1999, was the 3-pc food cans. The growth in this segment is almost 11% annually since 1996. This reflects very well the change in lifestyle of consumers, in which convenient and less time consuming food preparation are preferred. As the society is getting more affluent, canned food is certainly gaining popularity among busy working people. Hence, double digit growth is easily achievable for the year 2000 as well.

Similar to the beverage ends segment, the 3-pc food cans is also in the growth stage. Unlike the 2-pc DWI cans, product replacement for the 3-pc food cans is almost non-existence. This is because the 3-pc food cans could withstand high temperature sterilisation (of up to 129° C) which is required to preserve the food in them. At the moment no other materials (such as PET bottles) can withstand such temperature, except for bottles. Such alternative is still not very popular due to its

breakable feature and high packaging cost. Bottled food is only used for certain aggressive food type, such as pickles, jams, and premium priced food, for example health tonic drinks like Chicken Essence.

Due to its high growth and high profit, this segment is very competitive among big players, both from the can makers and lacquer suppliers. Most of the players in this segment, constitutes of big corporations which are able to bear the high risk involved. The big corporations are can makers such as the Kian Joo Group and M. C. Packaging; whereas the lacquer suppliers are ICI Packaging, PPG and Valspar.

The endocrine disruptor chemical is also a threat to this segment, eventhough its level in the coating is much lower than the organosol used in EOE. Presently, the content of this chemical in the coating used for food cans is still within the European Union permitted level. However, alternative coating system is still required. Hence, a compromise to the technical performance of the coating is yet again expected.

e) *General Line Cans*

As depicted by the name itself, this type of cans is produced for multiple type of consumer products. It ranges from cans for food pack such as milk powder, biscuits, chicken stock granules, cooking oil to cans for non-food pack such as paints, engine oil, grease, toiletries, gift-ware and others. These cans also consist of three main parts, namely the can body, bottom ends and a top lid.

5% of the total cans produced last year was the general line cans. Although the quantity of cans manufactured is much lower, this segment observes the highest growth rate since 1996, with 22% growth per annum. Due to the high growth rate in the past years and its relatively uncomplicated requirement, the General line cans segment is getting increasingly competitive among both the can makers and lacquer suppliers. There has been an increased of can makers which are producing such

cans. Similarly, the number of lacquer suppliers which are interested to sell into this segment, has also increased due to its low entry barrier. They are mostly small local set up with foreign licensed technology, such as GG Inks and Toyo Inks. Other major players are ICI Packaging, PPG and Coates' Brothers.

The competitive environment of this segment has resulted in price war among the can makers and lacquer suppliers respectively. As the technical performance of these cans are not stringent and the fact that the risk in this segment is much lower compared to the rest, quality has been vastly compromised.

The General Line cans is said to have reached its peak in terms of growth. A plateau in growth is forecasted, especially when most dry food manufacturers (such as Nestle, Smith Kline & Beecham, etc) are turning to vacuum pack and composite pack as alternatives to cut packaging cost.

f) *Caps and Closures*

Caps and closures refer to the 'covers' or 'lids' of bottles used in food packing. Example of these, are jams, chilli, tomato and oyster sauces, wine and liquor, herbal and chicken essence and many more.

Production of caps and closures form a small portion of the metal packaging industry, occupying a stake of only 1%. Growth rate in this segment has been rather slow. Its growth since 1996 is almost 3% per annum only. The growth rate is expected to be sustained around this level. This is because consumers are getting more health conscious and therefore, there will always be a niche in the market for bottled food and tonic drinks.

3.4.2 Market Share

The market size for the can coatings' industry, has been estimated to be 2.1 million litres in 1999. Table 3 indicates the various players in the industry and their respective market share.

Table 3: Market Share and Segmentation by Volume ('000 L)

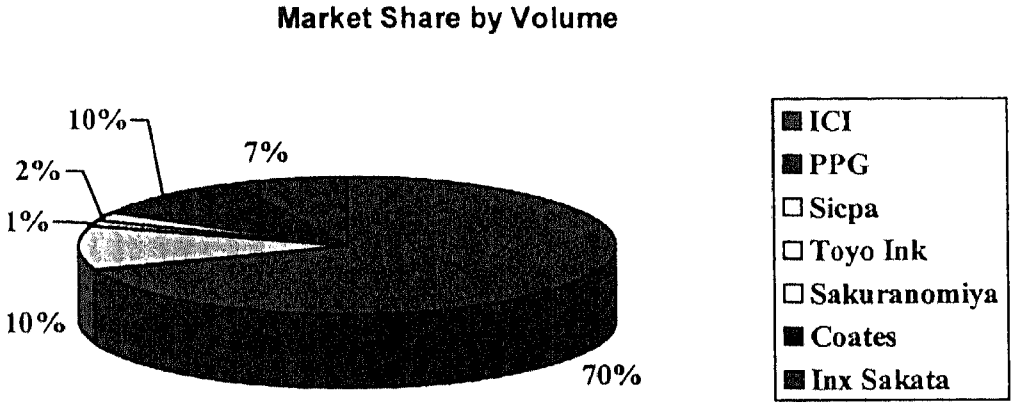
Players	2-pc DWI	3-pc Beverage	Beverage Ends	Food Cans	General Line	Caps & Closures	Company Total
ICI Packaging	648	42	123	134	150	-	**1097**
GG Inks	-	44.5	-	84.3	240.2	-	**369**
PPG	2.4	36.2	8.2	81.2	40.6	-	**168.6**
Coates	92	19	-	-	58.6	-	**169.6**
Sicpa	95	-	-	-	-	-	**95**
Toyo Inks	12.4	-	-	-	6.2	-	**18.6**
Sakuranomiya	20	-	-	-	-	-	**20**
INX Sakata	66	-	-	-	-	-	**66**
Valspar	-	19	-	-	-	-	**19**
DIC	-	-	-	-	27	-	**27**
Imported	-	-	-	-	-	75	**75**
Segment Total	**935.8**	**160.7**	**131.2**	**299.5**	**522.6**	**75**	**2124.8**

Source: ICIPM Customer Market Survey 1999

About 86% or 1.8 million litres of the coatings supplied to the industry is locally produced. The remaining is imported from Japan, USA, Thailand and Singapore. The main market players in the industry are ICI Packaging, GG Inks, Coates' Brothers and PPG. Out of these four, the first 3 players have their respective local manufacturing facility, which is definitely an advantage over PPG, where its coatings are being manufactured in Singapore.

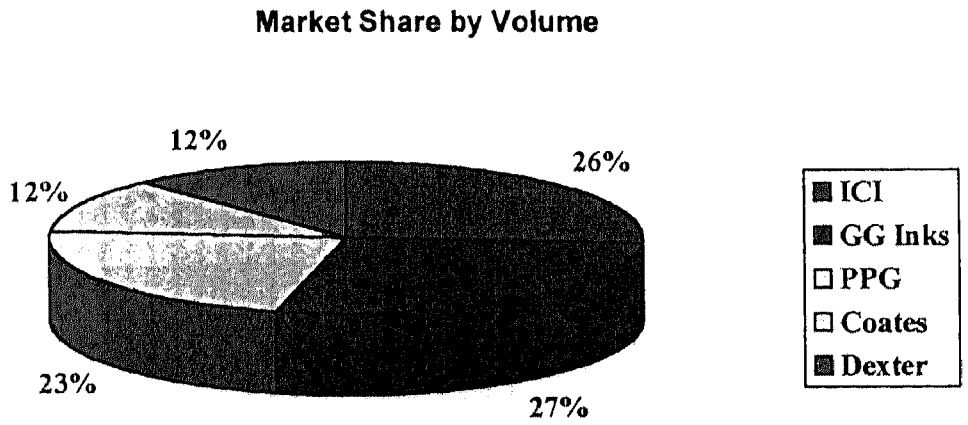
Figure 1 to 6, summarise further the market share of each can coatings' supplier in every market segment.

Figure 1: 2-Pc DWI Cans



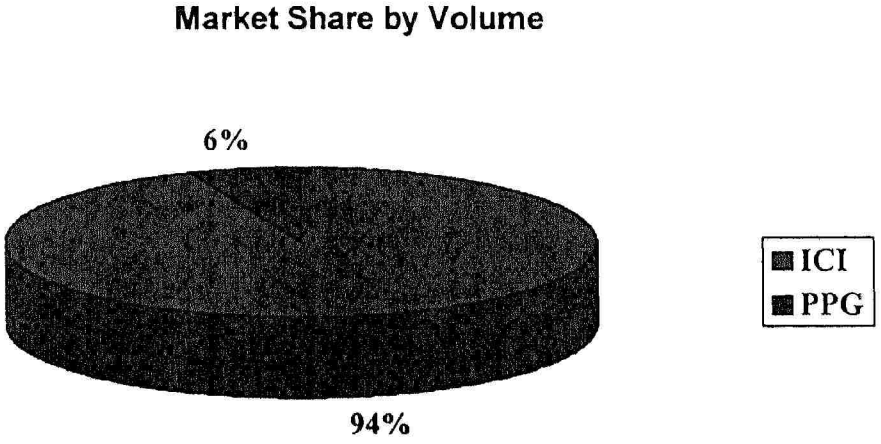
Source: ICIPM Customer Market Survey 1999

Figure 2: 3-Pc Beverage Cans



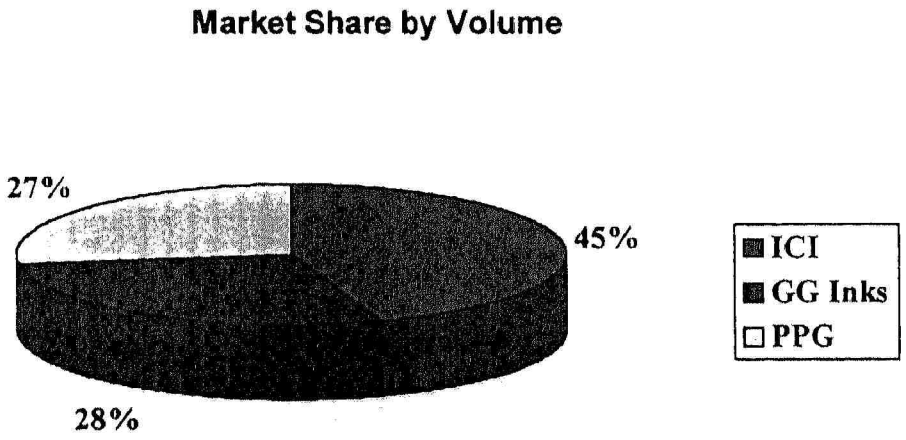
Source: ICIPM Customer Market Survey 1999

Figure 3: Beverage Ends



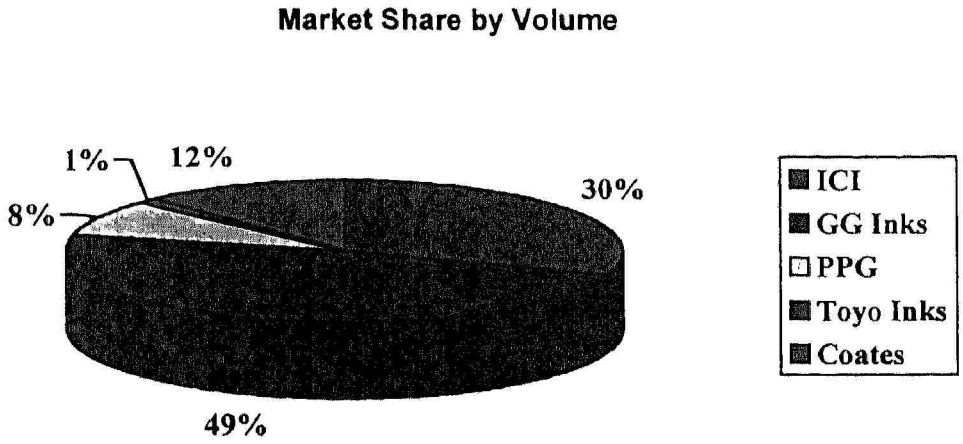
Source: ICIPM Customer Market Survey 1999

Figure 4: Food Cans



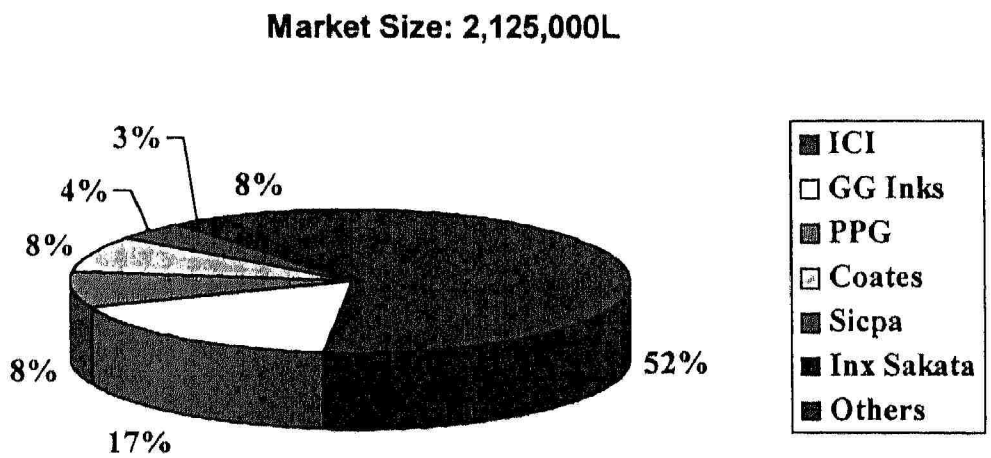
Source: ICIPM Customer Market Survey 1999

Figure 5: General Line Cans



Source: ICIPM Customer Market Survey 1999

Figure 6: Total Market Share



Source: ICIPM Customer Market Survey 1999