

**CY-HANDEE RUBBER MOULDINGS SDN BHD: THE FLUCTUATING
COMPANY'S PROFIT MARGIN - A CASE STUDY**

By

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Research report in partial fulfillment of the requirements for the degree of Master of
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DECLARATION

I hereby declare that the project is based on my original work expect for quotations and citation which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at the USM or any other institutions.

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ABSTRAK

CY-Handee (CYH) Rubber Mouldings Sdn Bhd pada masa ini merupakan salah satu pengeksport utama tikar bilik mandi (*bathmat*) getah di dunia. Syarikat ini telah memberi tumpuan kepada reka bentuk, pembuatan dan pemasaran tikar bilik mandi sedutan. Dalam tahun-tahun kebelakangan ini, CYH telah mengalami isu turun naik dalam margin keuntungan menjadikannya sesuai dipilih sebagai kajian kes. Kes ini bertumpu kepada pengenalpastian faktor-faktor yang memberi kesan kepada margin keuntungan CYH yang turun naik. Temuduga secara mendalam telah dijalankan dengan tujuh subjek dari CYH untuk mengetahui isu-isu dan cabaran dalam aspek pengeluaran, pemasaran dan pengurusan serta keperluan pelanggan dalam industri tikar bilik mandi sedutan getah. Berdasarkan lintasan sastera, kajian mendapati CYH dibatasi dalam "perangkap komoditi" di mana tikar bilik mandi sedutan getah sebagai komoditi telah meletakkan firma dalam persaingan berasaskan harga semata-mata. Analisis SWOT digunakan untuk mengetahui faktor-faktor luar yang memberi kesan kepada margin keuntungan CYH sementara analisis tulang ikan (Fishbone Analysis) digunakan untuk mengenal pasti isu-isu dan cabaran daripada pengeluaran, pemasaran dan pengurusan aspek. Beberapa cadangan diutarakan untuk pengeluaran, pemasaran dan aspek pengurusan sebagai penyelesaian untuk memastikan CYH boleh kekal sebagai peneraju pasaran dalam industri tikar bilik mandi sedutan getah dan juga untuk memastikan kemampanannya.

ABSTRACT

CY-Handee (CYH) Rubber Mouldings Sdn Bhd is currently one of the major exporters of rubber bathmat in the world. The company has been focusing on the design, manufacture and marketing of bathroom suction mats. In recent years, CYH has been experiencing fluctuating in profit margin making it a perfect choice as a case study. This case focuses on identifying factors that affect CYH's fluctuating profit margin. In-depth interviews were carried out with seven subjects from CYH to find out the issues and challenges in the aspect of production, marketing and management as well as the customer requirements in rubber bathmat industry. From literature review, this study found that CYH is bounded in a "commodity trap" as commoditization of rubber bathmat has put the firm into a purely price-based competition. SWOT analysis is employed to find out the external factors that affects CYH's fluctuating profit margin and Fishbone Analysis is used to identify the issues and challenges from production, marketing and management aspects. Recommendations for production, marketing and management aspects are proposed to ensure CYH can stay as a market leader in rubber bathmat industry as well as to assure its sustainability.

CHAPTER 1 - INTRODUCTION

1.1 Background

CY-Handee (CYH) Rubber Mouldings Sdn Bhd is one of the rubber products manufacturers in Malaysia. Throughout the years, the company has grown from a small rubber bathmat manufacturer to the largest rubber bathmat producer in Malaysia. To date, CYH is currently a market leader in rubber bathmat industry, as there is no other known single rubber bathmat manufacturer in Southeast Asia that can match up with CYH in term of capacity. In addition, the rubber bathmats that CYH's shipped were estimated to contribute up to 60 to 70 per cent of total rubber bathmat market shares worldwide (CYH, 2013).

Rubber bathmat is viewed as one of a commodity bathroom accessory in many countries. The origin of a rubber bathmat is unclear. Mr. Pong (2014), managing director of CYH estimated that that rubber bathmat was invented and popularized in Europe countries after the creation of modern bathtubs in early 19th century. Normally, most modern bathtubs are made of acrylic or fiberglass which is lighter, cheaper and easier to form into various shapes (GreenGoods Bath Factory, 2014). It can be slippery, especially when wet due to the smooth surface (Slip Doctors, 2014). Falls in the tub can be dangerous, as for a person's head may strike a hard surface like the tub or the floor while falling. Children and older adults are particularly susceptible to falls in the bathroom area (WiseGEEK, 2014). Therefore, rubber bathmat is used to provide safety in the bathtub for people to stand on and to prevent slipping in the tub during a bath or shower.

In the early days of business, around 1995 to 2006, rubber bathmat market is viewed as niche market where the product is focused on a small market segment derived. The rubber bathmat is aimed to satisfy specific market needs, especially the safety in using bathtub. At that time, CYH had the control on price of the product with a relatively good profit margin. However, the situation started to change since 2007 onwards.

A study by Roland Berger Strategy Consultants (2014), entitled "Escaping the commodity trap", shows that 63 per cent of the companies surveyed in United State of America, i.e. rubber products, telecommunications and financial services are experiencing commoditization in their products and services. In Malaysia, the rubber industry is also facing the similar problem. Over the years, the perception of rubber bathmat has somehow been "downgraded" to the level of commodity product rather than shopping product, where it is considered to be the same or similar to the other type of bathmats from other manufacturers. Even the market leader like CYH is now facing the marketplace's pressure as the firm's profit margin fluctuates due to limited product differentiation, high price of raw materials and price-based competition. Nearly all industries like rubber industry, steel industry, wood industry and etc. today are contesting with the increasing commoditization of their products and services. This is putting significant pressure on prices and margins and leads to more intense competition.

A Roland Berger's expert, Michael Zollenkop (2014) explains: "Companies that focus on price competition instead of investing in innovation, added value and adjusting their business models will inevitably face steadily falling prices for substitutable products or services. This means profit margins will continuously shrink, the industry will consolidate and many companies will fold." In CYH's case, the company has been

enjoying the growth in rubber bathmat market from 1996 to 2006 but starts to fluctuate from year 2007 onwards.

According to Jaskyte (2011), innovations are increasing in importance especially in the commodity industry as competition becomes more intense in terms of pricing. Innovation has a considerable role in the contemporary business environment. Innovation is the development of new customer's value through solutions that meet new needs, articulate needs or fulfilling existing customers and market needs in new ways. For instance, rubber bathmat is traditionally used to provide safety and comfort when using bathtub in the bathroom. Nowadays, bathmat is also used to enhance the artistic of a bathroom. Over the years, CYH has been trying hard to capture a larger market share in rubber bathmat through innovative changes in products' design, colour and appearance. Yet the future of company growth is still unclear.

1.2 Problem Statement

A commodity trap is a circumstance when products and services are forced to be engaged in a purely price-based competition (Roland Berger Strategy Consultants, 2014). Providers of "commodity" products or services will find themselves face increasing price and margin pressure. For example, CYH overall shipments for rubber bathmat have been recording growth since 1996, nevertheless the shipments has been fluctuating between 2.0 to 2.5 million on 2007 onwards. Rubbermaid, a subsidiary of Newell Rubbermaid, an American manufacturer and distributor of many household items is one of the CYH's

major customers. In 2009, the range of rubber bathmats that shipped to Rubbermaid is as Table 1.1.

Table 1.1 Rubber bathmats shipped to Rubbermaid, 2009 (Source: CYH, 2010)

No.	Model	Size	Colour	Price (RM / piece)	Volume (pieces)
1	SM 7035	Small	White/ Blue/ Brown	6.50	200, 000
2	SM 7040	Medium	White/ Blue/ Brown	7.50	200, 000
3	SM 7043	Large	White/ Blue/ Brown	9.00	100, 000

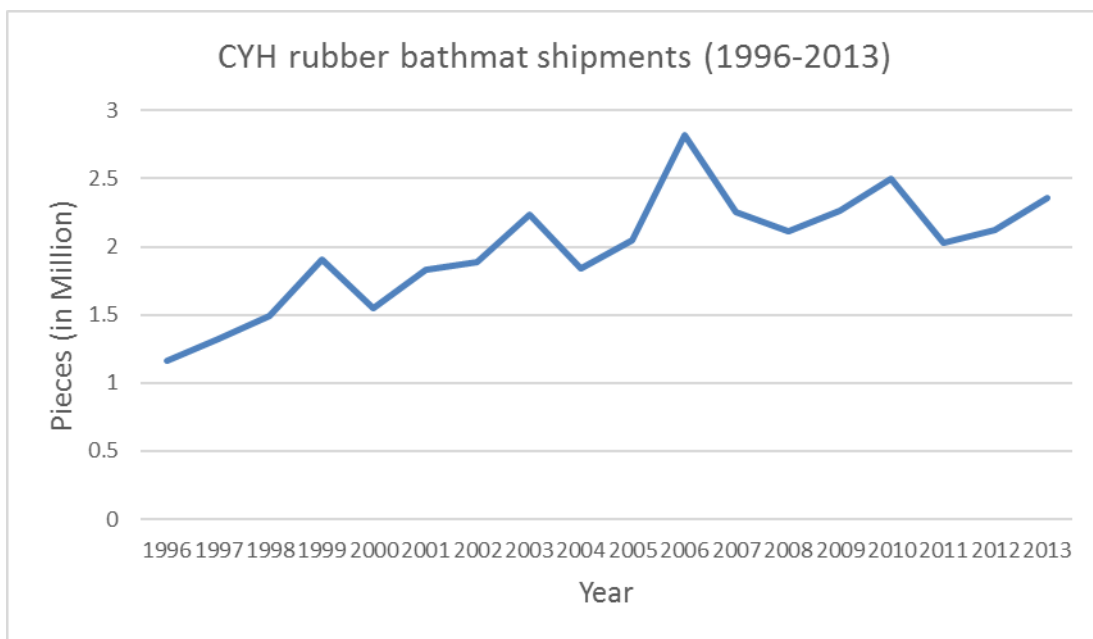


Figure 1.1 CYH rubber bathmats shipments 1996-2013

(Source: CYH internal report, 2014)

Moreover, manufacturers also have faced no escape from the intense marketplace competition by traditional means of exceling from the competition. In Malaysian rubber

products industry, the trend of sustaining innovation is common with further diversification, emphasizing on high value-added and high technology rubber products, such as products for engineering, construction and marine applications (Malaysian Investment Development Authority, 2013). For CYH, changes are made in designs, textures and colours of rubber bathmat in order to gain a larger rubber bathmat market share. Additionally, the providers also found themselves facing competition from new market players, resulting in production overcapacities which will affect company's performance and profitability. For instance, CYH rubber bathmats shipments had shrunk in 2011 due to the new market player, Bao Yuan located in Vietnam (CYH, 2010). Obviously, CYH has to do something different or additional to what CYH has been doing till now to continue the positive growth trend. This may be achieved through the identification of factors that affect the firm's profit margin.

1.3 Research Objectives

The broad objective of this research is to find out the factors that affects CYH's profit margin to fluctuate.

1.4 Research Questions

To accomplish the broad objective above, the following questions will be addressed:

RQ: What are the factors that affects CYH's profit margin to fluctuate?

The sub-questions for this Research Question will be:

- a) What are the issues and challenges faced by CYH's production, marketing and management in rubber bathmat industry?
- b) What are the requirements of bathmat customers?

CHAPTER 2 - INDUSTRY AND COMPANY PROFILE

2.1 Malaysian Rubber Industry Profile

Malaysia is globally renowned for its high quality and competitively priced rubber products (Malaysian Investment Development Authority, 2012). Malaysian rubber products manufacturers consist of multinationals such as Bridgestone, Dunlop and Goodyear as well as joint ventures from various countries including the German, China, Japan, Europe and USA like Max Groups (Malaysian-China joint venture), Saiko Rubber (M) Sdn Bhd (Malaysian-Japanese joint venture) and Richter Hi-Tech Sdn. Bhd (Malaysian-German joint-venture), and locally-owned medium and small sized enterprises, i.e. CYH, Medical Rubber and Principle Win.

According to Malaysian Investment Development Authority (2012), the local rubber industry has shown tremendous growth over the years. The Malaysian rubber products industry consists of more than 500 manufacturers producing:-

- i) latex products, i.e. Topglove and Hartalega produce gloves and Karex manufactures condoms;
- ii) tyres and tyre-related products, i.e. Bridgestone and Goodyear famous for passenger car tyres, commercial vehicle tyres and earthmover tyres; and
- iii) industrial and general rubber products, i.e. CYH produce rubber bathmat, Wellcall make hoses and Eliteflex manufactures seals, weatherstrips, gaskets and etc.

In 2009, top five main importers of Malaysian rubber products include USA, Germany, Japan, UK and Singapore. The United States was the most significant destination for Malaysian rubber product exports, comprising 26.8% of the total Malaysian rubber product exports (International Rubber Study Group, 2010). According to Malaysian Rubber Export Promotion Council (2013), exports of rubber products from Malaysia have been increasing since 2001. Malaysian rubber products are exported to more than 190 countries globally. The value of national exports exceeded RM9.0 billion in 2006 and achieved RM 14.6 billion in 2013, as shown in Figure 2.1. Overall, rubber products accounted for 2.03 per cent of Malaysia's total exports in 2013.

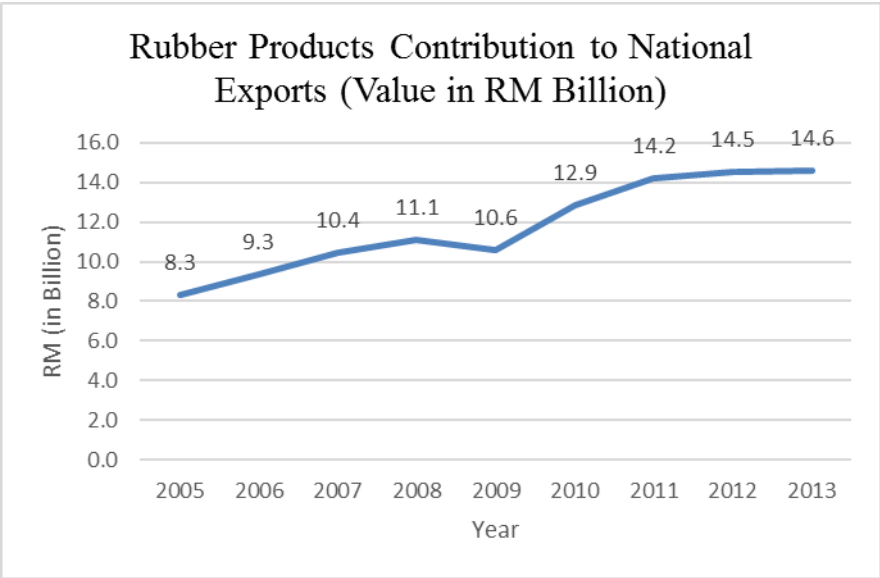


Figure 2.1 Rubber products contribution to national exports
(Source: Malaysia Rubber Board, 2014: page 13)

According to Malaysian Rubber Export Promotion Council (2013), Malaysia is the seventh largest consumer of natural rubber in 2013. The domestic consumption of natural rubber for 2013 was 434,192 tonnes. China was ranked on the top of natural

rubber consumption followed by India, the USA, Japan, Indonesia and Thailand. In Figure 2.2, latex products accounted for 82.5 per cent of Malaysia's export of rubber products by product sector, followed by general rubber products at 6.1 per cent, where rubber bathmat is grouped in.

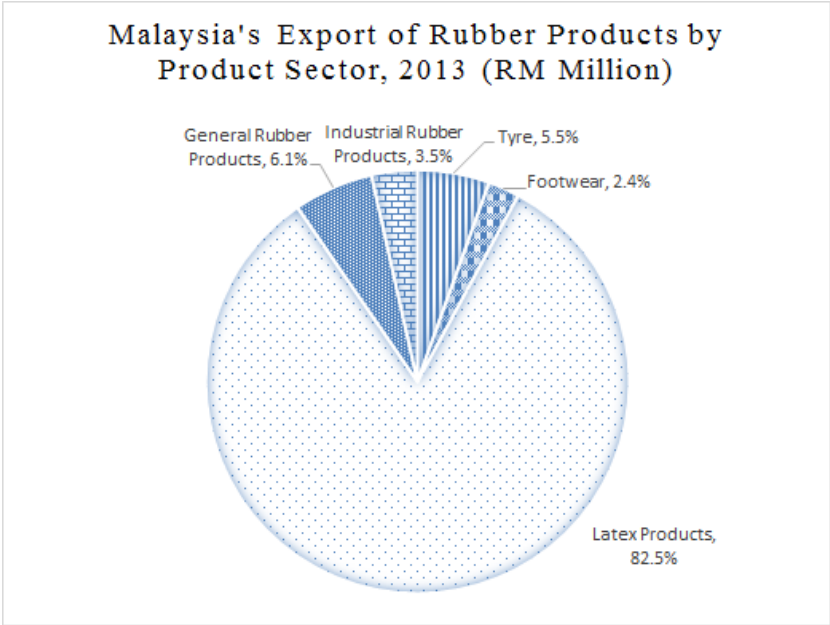


Figure 2.2: Malaysia's export of rubber products by product sector, 2013
(Source: Malaysia Rubber Board, 2014: page 25)

In term of manufacturing capacity, CYH is one of the leaders in producing rubber bathmat. Existing setup enables CYH to produce up to 3 million rubber bathmat per year. Other rubber bathmat manufacturing industry players in Malaysia are Medical Rubber and Principal Win. Nevertheless, original equipment manufacturer from new emerging countries like Vietnam and China are also catching up fast (CYH, 2011).

Malaysian Investment Development Authority (2012) pointed that the rubber industry aims to generate RM52.9 billion to the Malaysia's Gross National Income (GNI) by 2020. Malaysia government continues to promote the development of Malaysia's resource-based industries like rubber mainly because the country intends to diversify the sources of the country's economic growth. The government thus has emphasises on fiscal incentives to promote specific activities especially for the rubber products industry. Pioneer Status (PS) with income tax exemption of 70% of statutory income for 5 years or Investment Tax Allowance (ITA) of 60% of qualifying capital expenditure incurred within a period of 5 years is provided to further encourage investments in resource-based industries; particularly local rubber companies that reinvest to expand their projects. For example, CYH was granted Pioneer Status when the company start up in 1994. Pioneer Status expired in 1999.

Plastics and Rubber Institute Malaysia (PRIM), Malaysian Rubber Board (MRB) and Tun Abdul Razak Research Centre (TARRC) are the three of main organisations that provide research and development support in Malaysia rubber industry. The PRIM was founded in 1983, as it advanced from Institute of the Rubber Industry in Malaysia which was formed in 1962. PRIM is attached to the Plastics and Rubber Institute (PRI) United Kingdom, established in 1975, by the merger of the Institute of the Rubber Industry, founded in 1921 and Plastics Institute (1931). The main aim of PRIM is to develop and promote the polymer science and technology in Malaysia and to service the expert needs of those involving in plastic and rubber industry. The Malaysian Rubber Board (MRB) which was founded in 1998, on the other hand acts as a custodian of the rubber industry in Malaysia. The research and development work in natural rubber are

done by the Rubber Research Institute of Malaysia (RRIM), a research and development unit under the Malaysian Rubber Board (Malaysian Rubber Board, 2014) Similarly, TARRC which established in 1938 is also aimed to promote and assist the Malaysian rubber and rubber products industries.

In sum, with the ease of accessibility in quality raw materials, good infrastructure, political stability and research and development support from research and development units such as PRIM, MRB and TARRC, Malaysia shall continue to growth as a major player in rubber industry, supplying the world market with a wide range of rubber products.

2.2 Company Profile: CYH

Established in 1995, CY-Handee (CYH) Rubber Mouldings Sdn Bhd is currently one of the major exporters of rubber suction in bathmat in the world. The word “CY” is a short form for “Chong Yang” (or “中央” in Mandarin), which carries the meaning of “central”. The name of the company is resulted from rebranding of two companies, Chong Yang Rubber Works and Handee Express which are both owned by the same shareholder. The company’s ownership is made up of 51 per cent Malaysian and 49 per cent Singaporean. It has been a long road before seeing CYH growing from a humble beginning to a dominant position in its chosen niche market by paying close attention to basics.

CYH is located in Parit Buntar Industrial Estate, Preak with a total land area of 5.5 acres with a built-up area of 55,000 sq. ft. The company has about 200 workers and mainly focuses on production of rubber suction bathmats for international market. This factory was located an hour's drive from the tropical island paradise of Penang international airport, which means that visiting buyers will have no problem mixing business with pleasure. Malaysia confers other advantages as well, part of this steam from Malaysia's reputation as the world's premier producer of quality natural rubber.

Lead by the company's Managing Director, Mr. Pong Kai See, a UK-trained rubber techno-economist, with 40 years of experience behind him, CYH's rapid growth and marketplace acceptance are the results of offering what customer wants i.e. quality, price and service. Mr. Pong's characters are best described as "Type A" personality (McLeod, 2011). He is ambitious, and wishes to bring CYH achieve world's best practice. Mr. Pong (2004) mentioned that CYH's production systems and product quality have to be at the world best in order to compete with the world's best. In addition, Mr. Pong is also actively participated and well-known in Malaysia rubber industry. He is currently the elected president of PRIM for year 2014 to 2016.

For the past 10 years, CYH had gone through a lot of highs and lows. In 2006, the company got a huge order from Rubbermaid, an American manufacturer and distributor of many household items, has boosted the total shipment of rubber bathmat up to the historical high of 2.8 million pieces. Soon after, CYH's business was affected

by the economic recession faced by USA and European countries in 2007 to 2008. In 2009, Ikea, a multinational group of companies that designs and sells ready-to-assemble furniture, appliances and home accessories, placed a huge order for a new series of rubber bathmat with innovative designs. As the company started to recover, Ikea halted their order and switched to another OEM located in Vietnam citing price (cost) as the reason for switching. 2011 is also the year where natural rubber price hit the historical high, over RM 14 per kg. Faced with low orders of rubber bathmat and high price of raw materials, CYH went into a dilemma whether to retreat or continue with the business. After a management meeting, the management concluded there is still a future for rubber bathmat and decided to continue the business. Thankfully, after a year, CYH's marketing team won back Ikea's order and the natural rubber price had also slowly decreased. Only then that the business picked up its pace and slowly went back on track. However, a rumour that CYH heard from Ikea on the possibility of the company to change their business interest in 2015 may be a blow to CYH's profit margin.

In CYH, the company does not view the humble rubber bathmat as a commodity item. CYH strongly believe that the guiding principle is that bathmat should perform its designated function; which means it should grip the bathtub and should not slip. The concept behind the gripping action of the bathmat suction cup is atmospheric pressure. Depressing the suction cup expels air, creating a partial vacuum, when the rubber recovers. Optional sucker efficiency is the result of favourable combinations of suction cup geometry and thickness as well as strength of the rubber compound. In addition, production technology also plays a very important role in ensuring perfect formation of

suction cup during manufacture. The slightest imperfection causes air leakage and destroys the vacuum. A perfectly formed suction cup is shown in Figure 2.3.

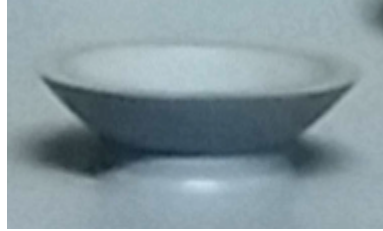


Figure 2.3: A perfectly formed suction cup

“A good quality sells itself” (Bryan, 2004). To this we can add, as far as the bathmat is concerned, “A bad product will land you in court”. Safety is an important issue. There is always the possibility of some irate customer will sue if a failed bathmat resulted in injuries. According to Mr Pong (2014), there were several reported cases where the end-users slipped and fell from the bathmat produced by CYH’s competitors; however the lawsuits are rarely disclosed to the public.

Over the years, through research and development, CYH has optimized the suction cup design to provide maximum suction and ease of production. Their efforts in this area, combined with attention to production and value engineering, have enable CYH to market a premium product competitively in world markets. With the capacity to produce 3 million bathmats per annum, CYH is perhaps one of only a handful of manufactures worldwide able to meet volume delivery at short notice.

2.2.1 Vision and mission

Vision
To be a world-class manufacturer of repute and excellence in the industry that we are in
Mission
To lead in the manufacturing of innovative and value-added consumer products with mass appeal worldwide in the industry that we are in

Figure 2.4: CYH Vision and Mission statement (CYH, 2014)

2.2.2 Markets

The products are sold through corporate customers', i.e. Ikea which designs and sells ready-to-assemble furniture, appliances as well as home accessories and Rubbermaid, an American manufacturer and distributor of many household items to all around the world, such as Canada, USA, Mexico, United Kingdom, Holland, Belgium, Spain, Portugal, Switzerland, Italy, Poland, Thailand, China, South Korea, Taiwan, Japan, Australia, Philippines, New Zealand, Russia, France, Sweden Norway, Germany, Denmark and so on.

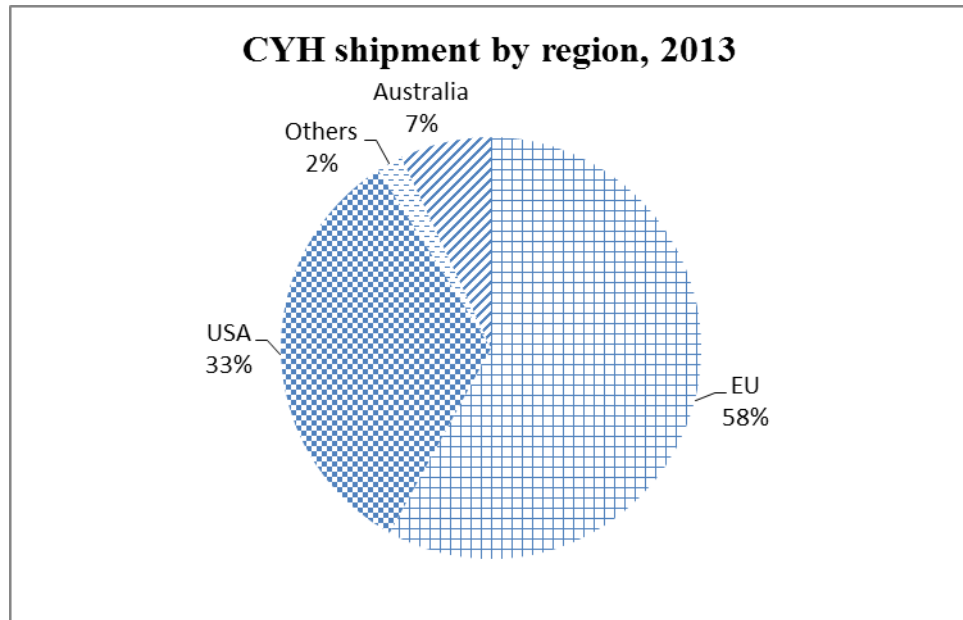


Figure 2.5: CYH shipment by region, 2013 (Source: CYH, 2014)

2.2.3 Organization Structures

Figure 2.6 shows the organization chart of CYH. CYH company structure is set up with eleven departments headed by the company managing director, Mr. Pong Kai See. Departments such as human resources, production and finishing are directly reported to managing director. Account department and purchasing department are under Administration Director, Mr. Lai Wing Hing. Manufacturing Director, Mr. Derrick Emuang is responsible for Technical & QC Lab, quality assurance department and warehouse. Whereas marketing department and shipping department are managed by Marketing Director, Ms. Joyce Lee. Only Technical & QC Lab, quality assurance, marketing, shipping, production and maintenance department comprise a manager. While other departments have their own head of department.

Fundamentally, each department operation is interlinked to each other and they have to work together in order to achieve company goals. Therefore, the key performance indicator (KPI) is employed to monitor the performance of each department. Besides, each department has to support other department in synchronization of day-to-day operations and ensuring the company is running smoothly. The functions of each department are listed as below:

1. Account department (3 people)

Responsible for managing accounting matters, such as cash flow and operations cost.

2. Purchasing department (3 people)

Purchase department buys raw materials, packaging materials, spare parts, services and etc. as required by the company. The department also assists in controlling of stock.

3. Technical & Quality Control Lab (8 people)

Responsible for managing the quality and technical issues in daily operational activities. This department also responsible for research and development and inspection of incoming raw materials.

4. Quality assurance department (9 people)

Responsible for testing and quality assurance of finished goods. The department also assists in setting the specification for packaging materials.

5. Marketing department (4 people)

Responsible for providing market information and trend, planning for sales, liaising with customers, executing order processing as well as being CYH

frontline contact with customer. In addition, marketing department also responsible in pushing CYH's latest developments and new concepts to customers.

6. Shipping department (5 people)

Responsible for managing the output delivery as required by the customers. This department also responsible for managing the appointment transporter and cargo handler.

7. Human resources department (4 people)

Responsible for managing the manpower, staff training and staff development. This department also tasked to establish and monitor the safety concerns of the company.

8. Production department (126 people)

Responsible for compounding and moulding operations, which are the main functions in ensuring that the products required are produced sufficiently to meet to plan and sales demand. Moreover, the department also responsible for ensuring the factory are operating at the optimum level by taking into consideration the operation cost in every aspect.

9. Maintenance department (10 people)

Maintenance department also called as engineering department. The department is responsible for maintenance, repairing and setting up of machines. This department also assists the company in building, maintaining and repairing in daily operational activities as required by the company.

10. Warehouse (6 people)

Responsible for managing the raw materials and products as well as managing the stock balance for raw materials and products. The department also tasked to upload the finished goods into the container.

11. Finishing department (30 people)

Responsible for trimming and packing the products.

Overall, the company's business operation is overseen by the managing director, who is responsible for setting of the company direction and strategy as well as monitoring the business performance, financial planning and resources.

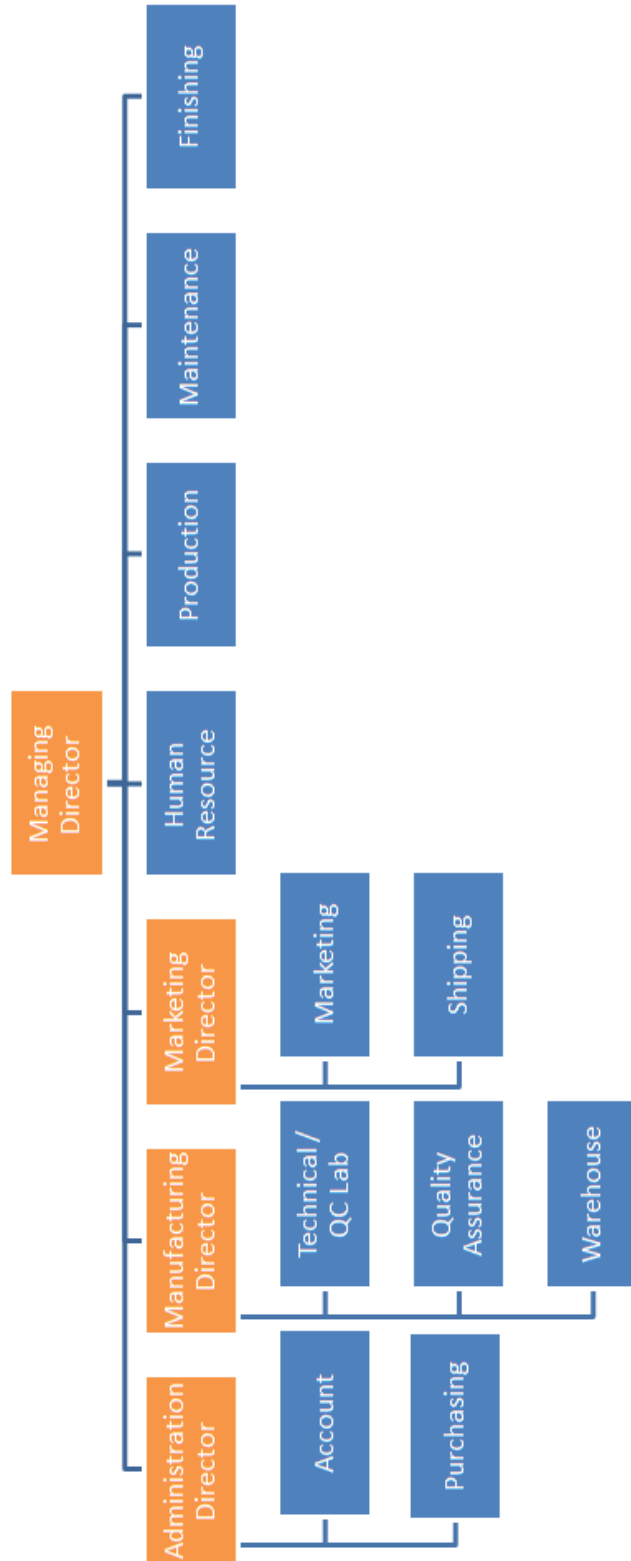


Figure 2.6: Organization Chart of CYH. Source: CYH (2014)

2.3 Case Issue

Mass customization is the new area in business competition for both manufacturing and service industries. The idea is to increase in variety and customization without a corresponding increase in costs. It can be ranged from mass production of individually customized goods and services up to providing strategic advantage and economic value for the business. According to McCarthy (2004), mass customization involves balancing operational drivers. It is defined as the capability to manufacture a relatively high volume of product options for a relatively large market (or collection of niche markets) that demands customization, without tradeoffs in cost, delivery and quality.

CYH has been focusing on the design, manufacture and marketing of bathroom suction mats is chosen as subject for this case study. The production targets are to meet the output and yield, which are 12,000 pieces per day and 96 per cent respectively. Over the years, increased customization of bathmats is done to attract customers, while the selling price remained at competitive level. Currently, there are more than 500 different designs and over 150 different types of colours in production.

In Figure 2.6, the price for Standard Malaysia Rubber Grade L had increased exponentially from about RM 4 per kilograms in 2003 to over RM 14 per kilograms in 2011. As a rubber manufacturer, the margins and profitability are greatly affected by the natural rubber prices. Being an OEM, CYH orders are very depended from the

customers. Thus, pass on the cost of rubber fluctuations back to CYH's customers cannot be done effectively.

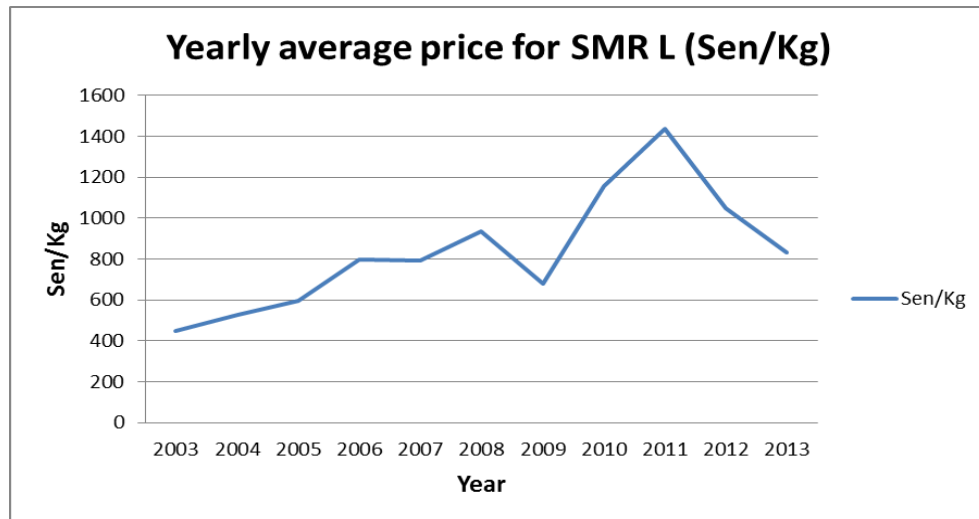


Figure 2.8: Yearly average price for SMR L, 2003-2013

(Source: Malaysia Rubber Board, 2014)

In 2009, 88 per cent of total CYH rubber bathmat was shipped to Europe countries and USA. Therefore, financial crisis of 2007 to 2008 in USA (Isidore, 2008) and the recession of 2008 to 2009 in Eurozone (Centre for Economic Policy Research, 2014) had a great impact to CYH business. The financial crisis has greatly affected the growth of rubber bathmat market as well as CYH's profit margin. In addition, CYH also highly exposed to fluctuation of currency exchange rates as nature of business deal with export markets, especially USA, UK and Australia.

One of the OEM from Vietnam, Bao Yuan had started price competition with CYH around 2010 (CYH, 2010). It possessed as a threat to CYH, as new emerging country like Vietnam has a low-manufacturing cost and lower labour cost to start off. Assuming that the costs of raw materials and overheads are the same for Vietnam's manufacturer and CYH, it is estimated that the Vietnam's manufacturer could have 5 to 10 per cent margin in its direct labour costs compared to what CYH can achieve.

CYH's core product has always been rubber bathmat and this situation has not been change for years. Other than design, colour and texture, there are barely any significant innovative changes in rubber bathmat. Moreover, CYH is also facing a strong demanded for cheaper bathmat from the customers' side. Without significant value-added innovations and differentiation, CYH has been a price taker.

These situations have been observed as factors for why CYH has been experiencing fluctuating in profit margin in recent years. This has to be tackled to ensure the company can remain as a market leader in rubber bathmat industry as well as to ensure its sustainability. To do this it is thought that the problem can be solved though identifying the factors that affects CYH's profit margin to fluctuate.

CHAPTER 3 - LITERATURE REVIEW

3.1 Overview of Sustaining Innovation and Disruptive Innovation

Sustaining innovation and disruptive innovation are broadly discussed in innovation-based studies. Professor Clayton Christensen (1997) pointed that sustaining innovation occurs when a firm engaged on improvements to their products and processes in order to enhance value propositions that surpass customers' expectations. The main purpose of sustaining innovation is to keep pace with current market competition. Sustaining innovation does not create new markets but rather only advances existing ones with better value. It is the common innovation path taken by firms to sustain their business in their existing mainstream market segment where their leading customers and competitions operate.

In contrast to sustaining innovation, a disruptive innovation is an innovation that forms a new market and value network. It will eventually displacing earlier technology in an existing market and value network. Christensen (1997) proposed that successful companies can put too much priority on customers' current needs, and fail to adopt new technology or business models that will meet customers' unstated or future needs, thus such companies will eventually fall behind. Christensen (1997) theory, i.e. "Disruptive innovation" theory explains the phenomenon by which an innovation alters an existing market by introducing simplicity, convenience, accessibility and affordability where complication and high cost is the current barrier. Initially, a disruptive innovation is created in a niche market that may appear unattractive or inconsequential to current industry, but eventually the new product or idea completely redefines the whole industry.

Habtay (2012) proposed that disruptive innovation business model could be categorized into technology-driven and market-driven. Technology-driven model is referring to a business model that is led by research and development process with the resultant disruptive innovation technologies which will advance into the market before any business opportunities arise. On the other hand, a market-driven model consists of less sophisticated technologies that fulfill the radical in value propositions of the existing customers.

In technology-driven business model, it will take a longer time to gain acceptability from the existing market. Market uncertainty is an obstruction when it involved new technologies, especially in market positioning. However, with the advancement of the technology, a company can enjoy the advantage of being the first mover in setting the price of the products (Habtay, 2012). For example, glove industry has advanced into a technology-driven type of industry. In future, glove manufacturers will need to compete in technology in order to stay in business. Glove manufacturers want to invest more in technology especially automated production lines, advanced production process technology and latex formulation technology in order to counter rising labour costs and stay ahead in competition (Lim, 2014).

In contrast, a market-driven disruption business model has relative stability in existing technology. The market is demand-oriented and the products positioning is relatively clear for new entrants. Nevertheless, the market tends to undergoes rapid growth and disrupts the mainstream market in a relatively short time due to resource endowments and economic feasibility. In longer term, market-driven disruptiveness will