

## **Functional food business potential analysis in Malaysia, Thailand, Indonesia and The Philippines**

(Analisis potensi perniagaan bagi makanan fungsian di Malaysia, Thailand, Indonesia dan Filipina)

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### **Abstract**

Modern lifestyle and rapid growth of the fast food service industry has led to changes in eating habits of Malaysians and indirectly causing an increase of chronic diseases. Recognising this problem, various activities have been undertaken to raise awareness and change the lifestyle of the people to be more active so that such diseases can be prevented and controlled. At the same time, production of healthy and functional food begin to grow in demand in accordance to the increase in healthcare awareness among Malaysians as well as the rising costs of medical treatment. Hence, this study examines the comprehensive information about functional food and intends to show the business potential of the functional food industry. The analyses conducted on data collected are trend analysis, Compound Annual Growth Rate (CAGR) and the Boston Consulting Group (BCG) Matrix, also known as the Boston matrix. Results demonstrate that each country has a different functional product market. In Thailand and Indonesia, dairy based functional products have a high potential to generate high profit and require lesser need of further investments. Meanwhile in the Philippines, soft drinks, functional beverages and dairy functional products can generate sufficient cash return and able to operate using their own sources of funding. However, it requires a large amount of new investment to meet market demand. For Malaysia, functional beverage segment were identified as the main focus of functional food. It has a consistently high growth rate every year and a large market share. Therefore, it is highly potential to be developed further.

### **Introduction**

Functional food is gaining its popularity among Malaysians in line with the changes in lifestyle. People nowadays are starting to realise the importance of living a healthy lifestyle and maintaining a balanced diet. Some users believe that functional food offer the features of a healthy diet, which can improve one's overall health,

reduce the risk of diseases and improve skin conditions (Phuah et al. 2015).

The government provides support in terms of policy implementation and campaigns. For example the 'Jom Sihat' campaign, literally translated as 'Let's be Healthy' meant to bring awareness to the community on the importance of healthcare and to propose simple ways to prevent chronic

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diseases. The current busy lifestyle and rapid growth of the fast food industry has led to changes in the eating habits of Malaysians which indirectly cause a negative impact towards overall health. This also led to the increase of chronic diseases such as obesity, heart disease, diabetes and others (Lau et al. 2012).

Along with the growing level of awareness, the production of health foods and functional foods began to grow. Its demand has also gone up. Various products have been produced which is enriched with 'functional' compounds like probiotics, fibre, calcium or vitamin E. Among the popular functional products available in the market are cultured milk drinks, herbs, probiotic yogurts, cereals enriched with fibre, and eggs containing omega-3. This study collected comprehensive information about functional foods, including the definition of functional food provided by different countries and organisations, as well as relevant legal and regulatory bodies in Malaysia. This study showed the business potential of the functional food industry.

### **Functional food definition**

Functional foods are foods and beverages that are advantageous to health (Arshad 2002) and offer a variety of additional nutrients which are not found in ordinary foods (Siro et al. 2008). Originally, the term functional food was first introduced in Japan, in the mid-1980s. It refers to processed foods containing ingredients that work for the health and physiological effects on the human body such as the nervous system, immune system and the body's defence (Shimizu 2003). It contains bio-active components or enriched with nutrients that are beneficial to health, offering immunity that enables the risk of chronic diseases to reduce (Lau et al. 2012).

In general, there is no fixed definition for functional food (June et al. 2002; Alzamora et al. 2004). In fact, the term functional food differs between countries (June et al. 2002). Some are even adamant

that functional foods are not those that come in the form of pills or supplements, rather that they resemble ordinary food (fresh food or food that have been processed) and are used as part of the daily diet (Diplock et al. 1999; Agriculture and Agro-Food Canada 2014). Some of the terms used when referring to functional foods are nutraceuticals, vitafoods, medifoods, dietary supplements and fortified foods. However, there are some organisations such as Health Canada that consider those terms to mean different things. Tee (2011) mentioned in his study that nutraceuticals or dietary supplements are not related to functional foods. The argument was that the bioactive components had been isolated and presented to users in the form of drugs such as capsules and tablets. In many Asian countries, these functional foods are better known as health food (Tee 2004). Functional foods consist two main parts:

- Newly found functional food products based on substantial research – probiotic dairy products, juices or cereals containing plant sterol that can lower cholesterol level, or eggs enriched with omega 3.
- Ordinary food products and brands – these products have been strengthened or restructured as functional products for marketing purposes. For example, calcium/vitamin-fortified juice, cranberry juice and breakfast cereals.

### **Types of functional food**

The main types of functional food are food or products which have been enriched, modified and enhanced (Siro et al. 2008). *Table 1* provides a list of the types of functional food, which are often used. The early development of functional food are foods fortified with vitamins or minerals, such as vitamin E, vitamin C, folic acid, zinc, iron and calcium (Sloan 2000; Lau et al. 2012). The next stage of development saw food being enriched with macronutrients such as soluble fibres and omega-3 fatty acids to promote health-food intake or to

Table 1. The main types of functional food

Types of functional food	Definition	Example
Fortified products	Foods that are enriched with additional nutrients	Fruit juice with vitamin C
Enriched products	Foods with a new or additional nutrient component that is not usually found in regular food	Margarine with plant sterol esters, probiotics, prebiotics
Altered products	Food component detrimental to health; removed, reduced or replaced with other materials that have a beneficial impact	Fibre as a liberator of fat in meat products and ice cream
Non-altered products	Natural food that contain nutrients or components enhancement	Natural foods
Enhanced products	The food is one of the natural components that have been enhanced through special growing conditions, the composition of new foods, genetic manipulation or otherwise	Eggs with increased content of omega-3 obtained by modifying chicken feed

Source: Agri-food Trade Service (2009); Lau et al. (2012)

Table 2. Benefits of food components

Component	Product	Benefit
Lycopene	Tomato	Reduce the risk of prostate cancer
Beta-glucan	Oat, barley	Reduce cardiovascular disease, lowering LDL and cholesterol
Omega-3 fatty acids – DHA/EPA	Fish oils	Reduce cardiovascular disease, improve mental function
Catechins	Tea	Neutralise free radicals and reduce the risk of cancer
Isoflavones	Soy-based products	Reduce cardiovascular disease, lowering LDL and cholesterol
Flavones	Flax seed	Neutralise free radicals and reduce the risk of cancer
Lactobacillus	Yogurt	Improve the quality of intestinal microflora

Source: Agri-food Trade Service (2009); Lau et al. (2012)

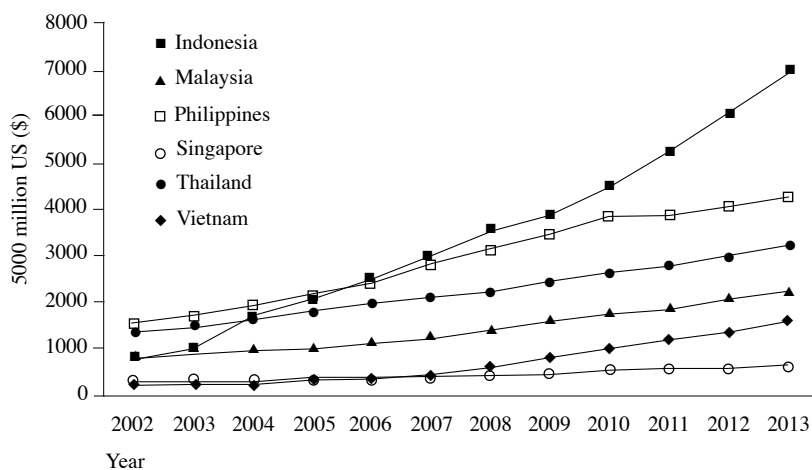
prevent diseases such as cancer (Sloan 2002; Lau et al. 2012).

There are many components in functional foods that are believed to provide health benefits to the body. Some of the major components are listed in *Table 2*. In addition, some examples of functional food in the ASEAN market are shown in *Table 3*.

### Functional food in the global market

In 1999, the leading market for functional food is dominated by the United States. However, in 2005, it was taken over by the Japanese market, followed by the United

States and later Germany. In terms of sales per capita, the largest market is Japan, followed by Spain and South Korea (Abu Kasim et al. 2009). Due to limitations of obtaining data regarding functional food, this study will focus on information for functional food within Asia-Pacific countries, and only the top four countries will be analysed in this study, namely Indonesia, The Philippines, Thailand and Malaysia (*Figure 1*). In 2002, the Indonesian functional food market is similar to that of Malaysia. However, growth in the Indonesian market ultimately made the



Source: Euromonitor International 2014

Figure 1. Market size for enriched/functional products in selected Asia Pacific countries (2002 – 2013)

country move farther ahead from the rest of Asia Pacific countries.

Referring to Korea International Trade Association (2013), functional food in Indonesia will see dynamic growth in demand in the next few years. It is forecasted that the compound annual growth rate for the sales of functional food in 2017 is 19.5%. The increase in health care costs, the changes in diet and lifestyle and the ageing population are among the factors contributing to the increasing demand for food supplements. Most of Indonesian consumers become more aware of the positive effects of nutritional food. Health food importers predict that demand will be an upward trend in the next 2 years. The Indonesian's functional food sector has attracted investment from multinational major companies. Some of the key players in Indonesia are PT. Fonterra Brands Indonesia, PT. Nutrifood, PT. Abbott Indonesia, PT. Kalbe Nutritional and PT. Ultrajaya Milk Industry and Trading Co. However, the availability of regulations in respect to control these products in Indonesia is not sufficient. Imported health food supplements may only be distributed through a local agent or distributors and is currently still concentrated in Jakarta.

The same trend occurred in Thailand, whereby it has no specific rules for functional foods. There is less scientific evidence that can support the health benefits proposed (Bagchi 2008). Based on Thai Food and Drug Administration, functional food refers to food with special dietary uses and has a similar appearance with conventional food. It is consumed as part of a normal diet, and exhibit physiological benefits such as the possibility of reducing the risk of chronic diseases.

In The Philippines, the market for functional food, nutraceuticals and drinks have less potential among the Filipinos. Approximately 60% of their population is classified in the low income group or poor consumers. They generally spend their disposable income on housing, food and essentials and less on non-essential and luxury goods. However, a gradual increase in self-medication and health concerns as well as the stimulation of an aggressive marketing campaign increase the demand by the middle income population towards health and wellness products. All food, drinks, health products and drugs that are locally manufactured or imported into The Philippines for sale are required to comply with the requirements of Republic Act No.

3720. This act is also known as the Foods, Drugs and Devices, and Cosmetics Act. This is the main food and drugs law of The Philippines, and is further amended by R. A. No. 9711, which is otherwise known as the Food and Drug Administration Act of 2009, and other relevant laws. At the moment, there is no specific tariff code for functional food, because these healthy foods are still not separately recorded by the government or the food industry. The fragmented nature of the market also makes it very difficult to estimate the size from a combination of trade estimates and in-market observations. Functional foods are typically displayed next to non-functional food products in the retail stores. There is some degree of confusion in the marketplace between fortified, enriched and functional products. Thus, it is likely consumers will not be fully aware that they are buying functional food products.

**Functional food in the local market (Malaysia)**

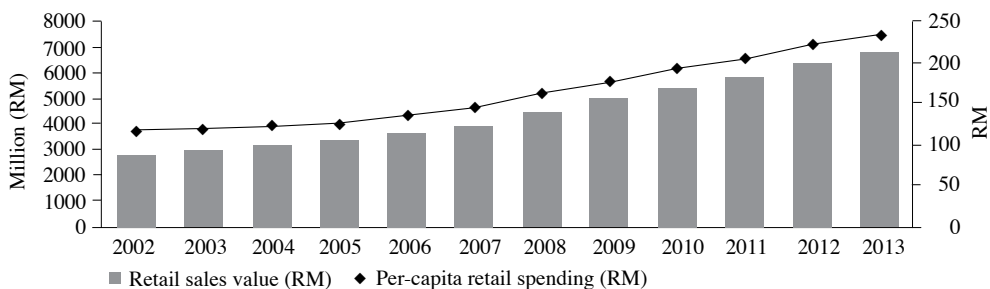
In Malaysia, there is no official definition or regulations specifically related to functional food. Frequently, functional food refers to the conventional food category and differs from nutraceuticals (Lau et al. 2012). Most functional products are recorded together with other non-functional food. Thus, there is no specific data on the market size, import and export for functional food or drinks. In Malaysia, all food, drinks and beverages, and other food ingredients either imported or locally produced, are required to comply

with certain food regulations. The major law and regulation in Malaysia are the Food Act 1983, Food Regulations 1985, Regulations on the Control of Drugs and Cosmetics Regulations 1984, and several important laws and regulations regarding halal (Lau et al. 2012). In order to control the quality and safety of functional products, the Ministry of Health (MOH) has appointed three bodies to participate in the implementation of the law for functional food. The entities consist of the Department of Food Quality, Malaysian National Codex Committee and the National Pharmaceutical Bureau (Abu Kasim et al. 2009).

The market for functional food is enormous and still growing in Malaysia. Functional food products are considered competitive products, whereby various products under this category are often developed and introduced into the market. In line with the increase in retail sales of functional foods, retail spending per capita for functional products showed a positive trend (Figure 2). This means, the propensity of Malaysians in buying functional products is increasing. This increase is directly influenced by frequent exposure in the market and awareness among consumers toward food products that are nutritious and beneficial to improve health (Lau et al. 2012).

**Methodology**

Due to data limitations, the study only used data from Asia-Pacific countries



Source: Euromonitor

Figure 2. Retail sales value and per-capita retail spending for functional food in Malaysia

obtained from Euromonitor. In Euromonitor, functional food data are categorised into five categories; dairy, snack bars, bakery (include bread and biscuits), soft drinks, and functional beverages (Table 3). The analyses conducted on data collected are trend analysis, Compound Annual Growth Rate (CAGR) and the Boston Consulting Group (BCG) matrix, also known as the Boston matrix. Referring to *Collins internet-linked dictionary of Business*, Boston matrix is a framework used to highlight and analyse product development policies, and implications related to cash flows in a firm. Normally, it is used by corporate planners in formulating business strategies.

Boston matrix is a matrix with four segments; star, cash cow, question mark and dog (Figure 3). The market growth rate is represented on the vertical axis and the market share for the products is represented on the horizontal axis. It shows that the higher the market growth rate, the greater the capital investment required and therefore requires more cash. For products that have a larger market share, greater profits are gained and more cash are generated.

All four of these segments carry different information. The cash cow segment describes a product being in a phase of maturity where it has a low growth rate but its market share is high. This indicates that this product has a high yield, requiring a lesser need for further investments. Cash cows are the main source of internal funding needed to finance a firm's promotion and development activities for the product. Star segment, being the ideal segment means that

the product has a high rate of growth as well as a high market share. This product requires a large amount of new investment to meet market demand. This means that research and development (R&D) is important in this segment to generate new products. High market share often yield sufficient income and profit for a firm to operate using its own financial resources.

Meanwhile, for products that are in the question mark segment, it indicates that the product has a high growth rate but the market share is low. This product requires a large capital outlay. The low market share affects the returns gained from the product. Products in this segment require a lot of cash flow for investments. In other words, it creates a huge cash drain for a company. On the other hand, question marks have the potential to move into the star segment if their market share could be improved. The final segment is dog, whereby products in this segment have both low growth rates and low market shares. Products in this segment do not seem to have the potential for development in the future. It tends to

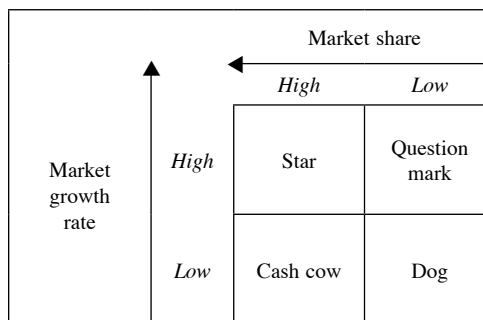


Figure 3. Boston matrix

Table 3. Categories of functional food

Dairy	Snack bar	Bakery	Soft drink	Functional beverage
<ul style="list-style-type: none"> <li>• Infant formula</li> <li>• Cheese</li> <li>• Milk-based beverages</li> <li>• Yogurt and sour milk products</li> </ul>	<ul style="list-style-type: none"> <li>• Breakfast bar</li> <li>• Energy and nutrition bar</li> <li>• Fruit bar</li> <li>• Granola bar</li> <li>• Muesli bar</li> <li>• Others</li> </ul>	<ul style="list-style-type: none"> <li>• Cereal</li> <li>• Biscuit</li> <li>• Bread</li> </ul>	<ul style="list-style-type: none"> <li>• Carbonated</li> <li>• Starch</li> <li>• Energy drink</li> <li>• Fruit and vegetable based drinks</li> <li>• Ready to drink coffee</li> <li>• Ready to drink tea</li> <li>• Sports drink</li> </ul>	<ul style="list-style-type: none"> <li>• Hot drinks</li> <li>• Instant coffee</li> <li>• Instant tea</li> <li>• Chocolate-based drinks</li> <li>• Hot plant-based drinks and malt</li> </ul>

absorb cash rather than generate it, although, it does have the potential to be reinvested in the event of an appropriate buyer.

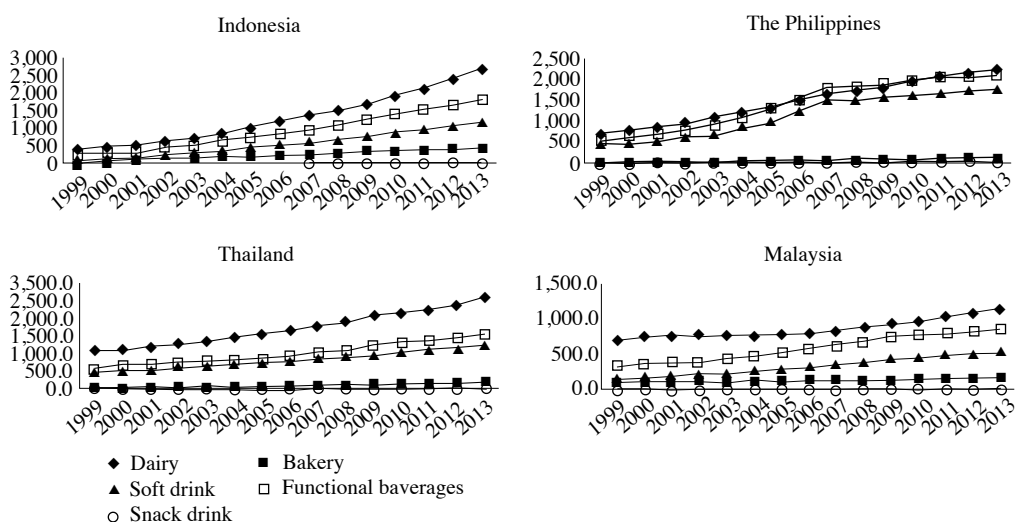
**Results and discussion**

In Asia, beverages such as fruit juices and dairy-based drinks have a high demand. *Figure 4* illustrates the demand in four countries. Indonesia, The Philippines, Thailand and Malaysia show a similar trend. The dairy sector monopolise the functional food market size, followed by functional beverages, soft drinks, biscuits and bread (bakery products) and bar snacks. Despite having the same trend, the growth rate and market share differs. The difference can be seen from the Compound Annual Growth Rate (CAGR) analysis and Boston matrix. CAGR is used to compare the growth of each category for each country, and the BCG is used to identify which functional food category is more competitive and have potential for new product development.

*Table 5* presents the CAGR value for each category of functional food. For Indonesia, snack bars recorded the highest growth rate of 58.56%, followed by bakery products (29.29%), soft drinks (15.22%), functional drinks (15.22%) and dairy products (13.26%). On the other hand, the

highest growth rate for functional food categories in The Philippines is for bakery products (12.9%). This is then followed by snack bars (14.53%) in Thailand and soft drinks (8.99%) in Malaysia.

*Figure 5* illustrates the Boston matrix for Indonesia. The ball size in a particular segment that represents each functional food category shows the sales value or retail size. In Indonesia, functional beverages and dairy are in the cash cow segment. This indicates functional beverages and dairy products generate good cash flow. Its existing products have a strong market presence. If compared between the dairy and functional beverages, dairy products have higher retail sales and a higher market share. This means that most dairy-based functional food products have the potential to generate high profits. Meanwhile, the snack bars are labelled under the question mark segment, due to its small amount of sales. The snack bar category requires considerable capital for products to be developed and expanded in the market. If the product is able to dominate the market, it has the potential to move to the star segment. However, if it is not able to dominate the market, it is likely to enter the segment of the dog that is not a priority for development. For functional



*Figure 4. Trend for each category of functional food*

Table 5. Compound annual growth rate – CAGR

	Indonesia	The Philippines	Thailand	Malaysia
Dairy	13.26%	7.71%	5.89%	3.32%
Functional beverages	13.72%	8.97%	7.01%	6.67%
Soft drinks	15.22%	9.55%	6.57%	8.99%
Bakery	29.29%	12.09%	9.37%	3.53%
Snack bars	58.56%	7.71%	14.53%	4.25%

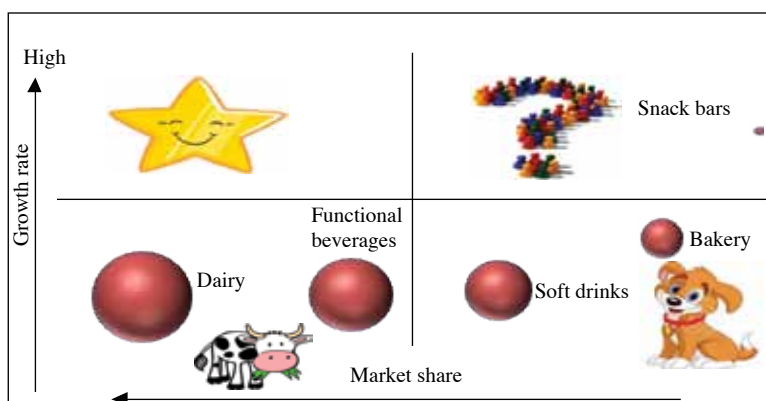


Figure 5. Boston matrix analysis for the functional food segment – Indonesia market

beverages and bakery products, both its growth rate and market share are low. However, the size of retail sales of functional beverages is quite large. Thus, this segment does not have the potential to be developed. Product development strategy for the particular product in this segment shall need to be reviewed.

For the functional food market in The Philippines (Figure 6), Boston matrix indicates dairy, soft drinks and functional beverages located in the star segment. Both growth rates and market shares of these products are high. High growth rates can open new opportunities by capturing the same user and even creating new ones. With even higher market shares, the firm can generate sufficient cash return. The firm shall be able to operate using their own sources of funding. From the retail sales aspect, the size of the ball indicates dairy having the biggest size. This means that the dairy has the biggest retail sales followed by functional beverages and soft drinks.

The snack bar category on the other hand has a low market share. This means that the market for snack bars in The Philippines is relatively weak and does not have the potential to be developed. Bread and biscuits are in the question mark segment, indicating it is likely to evolve into a star. On the pessimistic side, it can also enter into the dog segment, not having any potential at all.

In Thailand, the growth rate for functional dairy products is low. However, the market share is high (Figure 7). This places the product in the cash cow segment. It generates cash and high profit. Conversely, soft drinks and functional beverages are located between the cash cow and dog segments. This means that if the market share grows, it will generate a lot of cash in the cash cow part. Otherwise, it may not develop and will need to be reinvested. For bakery products (bread and biscuits), they are located in the question mark category and almost enters into the dog segment. The products here require a new



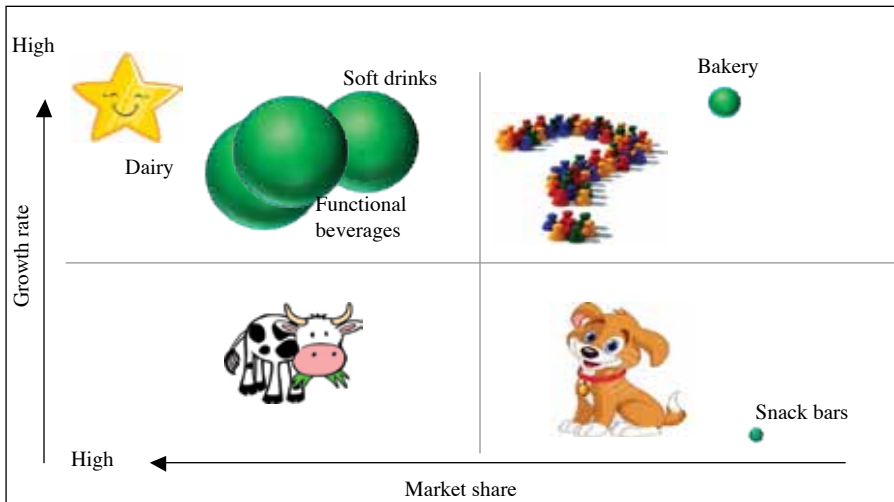


Figure 6. Boston matrix analysis for the functional food segment – Philippine market

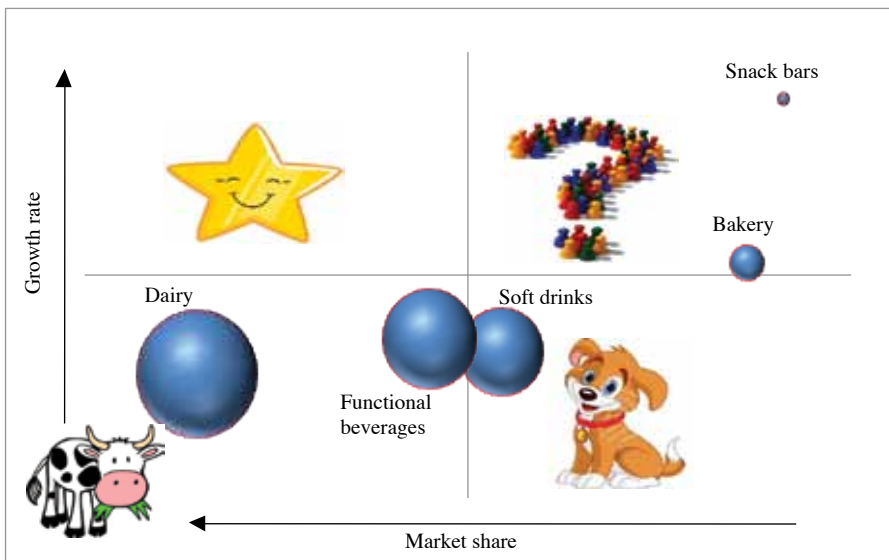


Figure 7. Boston matrix analysis for the functional food segment – Thailand market

market strategy to improve and expand into the market. In the case where it is unable to increase its sales in the market, it will fully enter the dog segment and be more difficult to be developed further.

The functional food industry in Malaysia is different when compared with countries discussed earlier. Functional beverages are the star segment products with both the growth rate and market

share recording relatively high presence (Figure 8). This gives an indication that this product should be the main focus of product development and should seek to dominate the market and meet consumer demand. It has the potential to generate a good income if it can remain in the quadrant. For dairy functional food, although it has a relatively high market share, but the growth rate is low, placing this product in the cash cow

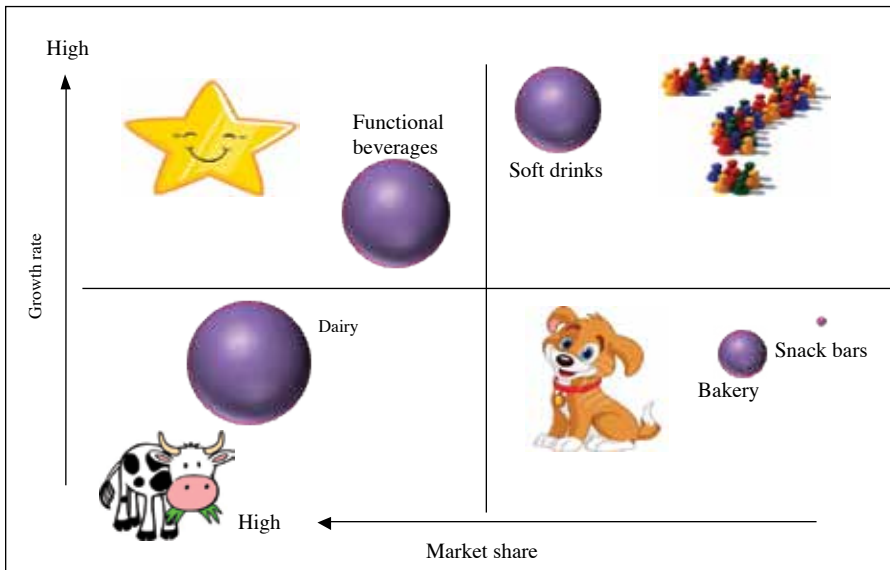


Figure 8. Boston matrix analysis on the functional food segment – Malaysia market

segment. This clearly shows that dairy products continue to generate profit from its existing products.

Meanwhile, soft drinks located in the question mark segment indicate the product requires an effective marketing strategy to increase market share. Low market share for these products produces only a modest profit for this category. Snack bars and bakery segments remain in the dog quadrant, with low growth rate and low market share. This indicates both categories to have minimum potential to be developed in the future.

### Conclusion and recommendations

Based on the findings discussed earlier, three segments in the functional food category were identified as the main focus or strength, namely functional beverages, dairy and soft drinks. Thus, R&D for product or technology development for these categories should be given priority. This is especially true for functional beverages that have a consistently high growth rate every year and a large market share. This means, it has a high potential to be developed further.

For dairy-based functional food, it has a large market share, but low growth rate.

Hence, the need for research on new product lines of dairy-based functional foods. For soft drinks such as fruit juices and energy drinks, it still requires large investments to meet market demand. It has the potential to be developed and marketed more widely. An extensive review of all of these products will help the country successfully dominate the functional food market.

It is highly recommended for future research to be conducted on functional food ingredients in the local market. Malaysia has a rich biodiversity of flora and fauna and can offer a large source of bioactive materials, as well as various types of new functional foods (Tee 2011; Lau et al. 2012). The collaboration between academicians and industry players is important for future research and development activities, to drive growth of the local functional food industry (Tee 2011; Lau et al. 2012). It is hoped that more doors will be open for trade opportunities and the potential for new profitable segments will appear for local producers and entrepreneurs.

## References

- Agriculture and Agri-Food Canada (2011). The Philippines' markets for functional foods, nutraceuticals and organic foods – An introduction for Canadian producers and exporters. Retrieved on 14 March 2015 from <http://www.agr.gc.ca/eng/industry-markets-and-trade/statistics-and-market-information/agriculture-and-food-market-information-by-region/asia/market-intelligence/the-philippines-markets-for-functional-foods-nutraceuticals-and-organic-foods/?id=1410083148753>
- Agriculture and Agri-Food Canada (2014). Opportunities and challenges facing the Canadian functional foods and natural health products sector. Retrieved on 14 March 2015 from [http://www5.agr.gc.ca/resources/prod/doc/pdf/ffnhp\\_opportunities\\_challengesafpsn\\_possibilites\\_defis-eng.pdf](http://www5.agr.gc.ca/resources/prod/doc/pdf/ffnhp_opportunities_challengesafpsn_possibilites_defis-eng.pdf)
- Agri-food Trade Service (2009). Consumer trends: Functional foods. Agriculture and Agri-food Canada
- Abu Kasim, A., Rashilah, M., Rawaida, R. and Mohamed Faireal, A. (2009). Understanding consumer demand towards functional foods. Laporan Projek Tahunan 2009, MARDI
- Alzamora, S.M., Salvatori, D., Tapia, S.M., Lopez-Malo, A., Welti-Chanes, J. and Fito, P. (2004). Novel functional foods from vegetable matrices impregnated with biologically active compound. *Journal of Food Engineering* 67(2005): 205 – 214
- Arshad, F. (2002). Functional foods from the dietetic perspective. *Jurnal Kesihatan Masyarakat* 8(S): 8 – 13
- Bagchi, D. (Ed.). (2008). *Nutraceutical and functional food regulations in the United States and around the world*. U.S: Academic Press
- Diplock, A.T., Aggett, P.J., Ashwell, M., Bornet, F., Fern, E.B. and Roberfroid, M.B. (1999). Scientific concepts of functional foods in Europe: Consensus document. *British Journal of Nutrition* 80(11): S1 – S27
- Korea International Trade Association (KITA). (2013). Indonesian market focus Functional food. Retrieved on 5 Aug. 2016 from [www.kita.net/bin/service/download.jsp?nIndex=202513](http://www.kita.net/bin/service/download.jsp?nIndex=202513)
- Lau, T.C., Chan, M.W., Tan, H.P. and Kwek, C.L. (2012). Functional food: A growing trend among the health conscious. *Asian Social Science* 9(1): 198 – 208
- MOH (2011). Pelan strategik 2011 – 2015: 1 Care for 1 Malaysia. Retrieved on 10 March 2016 from [http://www.moh.gov.my/images/gallery/Report/Plan\\_Strategik\\_KKM%202011-2015.pdf](http://www.moh.gov.my/images/gallery/Report/Plan_Strategik_KKM%202011-2015.pdf).
- National Agro-food Policy 2011 – 2020. Retrieved on 5 March 2016 from <http://www.moa.gov.my/web/guest/dasar-n>
- Phuah, K.T., Rezai, G., Mohamed, Z. and Shamsudin, M.N. (2015). Socio-demographic profile in purchasing natural and synthetic functional foods in Malaysia. *International Journal of Social Science and Humanity* 5(7): 604 – 607
- Shimizu, T. (2003). Health claims on functional foods: The Japanese regulations and an international comparison. *Nutrition Research Reviews* 16(02): 241 – 252
- Siro, I., Kopolna, E., Kopolna, B. and Lugasi, A. (2008). Functional food. Product development, marketing and consumer acceptance – A review. *Appetite* 51(3): 456 – 467
- Sloan, A.E. (2000). The top ten functional food trends. *Food Technology* 54: 33 – 62
- Sloan, A.E. (2002). The top ten functional food trends. The next generation. *Food Technology* 56: 32 – 57
- Tee, E.S. (2011). Functional foods with health benefits – Approaches around the globe. Presented at functional foods symposium 2011, Prague, Czech Republic
- Tee, E.S., Chen, J. and Ong, C.N. (2004). *Functional foods in Asia: Current status and issues*. p. 1 – 47. Singapore: International Life Science Institute (ILSI)

## **Abstrak**

Gaya hidup moden dan pertumbuhan pesat industri makanan segera telah membawa perubahan dalam tabiat pemakanan rakyat Malaysia dan secara tidak langsung menyebabkan peningkatan penyakit kronik. Menyedari masalah ini, pelbagai aktiviti telah dilaksanakan untuk meningkatkan kesedaran dan mengubah gaya hidup rakyat Malaysia supaya menjadi lebih aktif untuk mencegah dan mengawal penyakit kronik. Pada masa yang sama, pengeluaran makanan yang sihat dan berfungsi mula berkembang selari dengan peningkatan dalam kesedaran penjagaan kesihatan di kalangan rakyat Malaysia serta peningkatan kos rawatan perubatan. Justeru, kajian ini mengumpulkan maklumat yang komprehensif mengenai makanan berfungsi dan juga menilai potensi perniagaan industri makanan berfungsi. Analisis yang dijalankan ke atas data yang dikumpulkan adalah analisis trend, Kadar Kompaun Pertumbuhan Tahunan (CAGR) dan *Boston Consulting Group (BCG) Matrix*, juga dikenali sebagai Matriks Boston. Keputusan menunjukkan bahawa setiap negara mempunyai pasaran produk berfungsi yang berbeza. Di Thailand dan Indonesia, produk fungsian berasaskan tenusu mempunyai potensi yang tinggi untuk menjana keuntungan dan memerlukan pelaburan selanjutnya yang lebih rendah. Sementara itu di Filipina, minuman ringan, minuman berfungsi dan produk tenusu berfungsi boleh menjana pulangan tunai yang mencukupi dan mampu beroperasi menggunakan sumber-sumber dana mereka sendiri. Walau bagaimanapun, ia memerlukan sejumlah besar pelaburan baru untuk memenuhi permintaan pasaran. Di Malaysia, segmen minuman berfungsi telah dikenal pasti sebagai fokus utama makanan berfungsi. Ia mempunyai kadar pertumbuhan yang tinggi secara konsisten setiap tahun dan bahagian syer pasaran yang besar. Oleh itu, ia mempunyai potensi yang tinggi untuk dibangunkan.