



An analysis on the competitiveness of halal food industry in Malaysia: an approach of SWOT and ICT strategy

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Abstract

The halal food industry is vital important to the world wide Muslims to ensure hygiene, cleanliness and not detrimental to their health and well-being in whatever they consume, use and purchase. Theoretically, halal is possible to be the benchmark for quality with specifically refers whatever is permitted by *Syariah Islamiah* and applies to every activity carried out by mankind. Practically, halal when used in relation to the business sector, it refers to business operation and conducted in a manner deemed permissible in Islam. Meanwhile, current development shows that the halal food industry has become one of important sectors that contributes to the societal development as well as it contributes to the national growth. The objective of the present paper is to analyze the competitiveness of business environment of halal food industry in Malaysia. The main method that used are PEST and SWOT analysis where each factors that are related to the halal food industry will be screened and evaluated of it importance. In addition, ICT-based strategy will be recommended on the halal food industry to enhance their current competitive forces as well as preparation for future challenges of the industry.

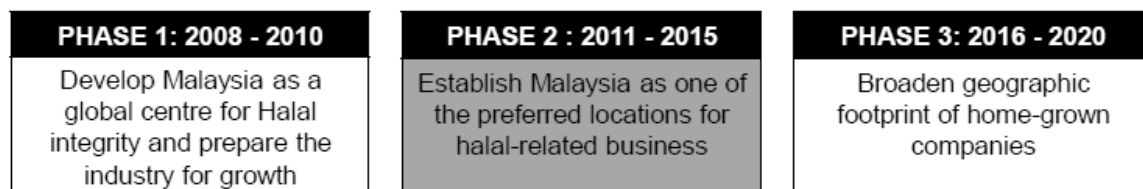
Keywords: business environment competitiveness, Halal food industry, muslim population, ICT-based Strategy, Malaysia, SWOT

Introduction

The *halal* food industry is vital important to the world wide Muslims to ensure hygiene, cleanliness and not detrimental to their health and well-being in whatever they consume, use and purchase. Theoretically, *halal* is possible to be the benchmark for quality with specifically refers whatever is permitted by *Syariah Islamiah* and applies to every activity carried out by mankind. Previously, Malaysia aims to become a global Halal Food Hub by 2010, and hopes to raise its current global *halal* market share of one per cent to five per cent by 2010, by capitalising on the edge it has over other Muslim nations in trading, logistics, banking and *halal* certification. Concerted efforts, strategies and measures are undertaken to support the development of *halal* industry as identified in the Second Industrial Master Plan, 1996 – 2005; the National Agriculture Policy, 1998 – 2010; the Ninth Malaysia Plan (9MP), 2006 – 2010; and the Third Industrial Master Plan (IMP3), 2006 - 2020. Some studies regarding *halal* food industry have been carried out by researchers such as Ananda (2008), HDC (2008), Chang (2007), Rahman (2007), Raja Adam (2006), Ramli (2006), Seong and Rizal (2006) and Riaz and Chaudry (2004). Most of them tend to have positive views on future prospect of *halal* food product. In addition, scholars such as Nurwahida and Abdul Manaf (2009), Sungkar (2008) and Yusof (2004) have been very optimistic that the *halal* food industry will continue to gain success if given appropriate incentives and supports from government and other players in the marketplace.

In Malaysia, the Cabinet of Malaysia has approved the Halal Master Plan, addressing issues of certification, sector development, Halal integrity, implementation, timeframes and responsibilities

by May 2008. The Master Plan envisages three phases of the roll-out from 2008 to 2020 as shows in Figure 1 below. The success of *halal* food business in Malaysia is impossible initiative where supported by some important factors, both globally and locally. In global perspective, with a Muslim population is increased steadily in every year where it was one of stimulus of future market of *halal* food. As increases of awareness among Muslims all over the world on their obligation to consume products based on Islamic requirements will creates greater demand for *halal* food includes *halal* services. The demand for *halal* products is expected to continue to increase in tandem with the increasing Muslim population all over the world. According to the Third Industrial Master Plan (IMP3) (2006), the annual global market value for both food and non-food *halal* products is estimated at USD2.1 trillion.



Sources: Saifol (2011)

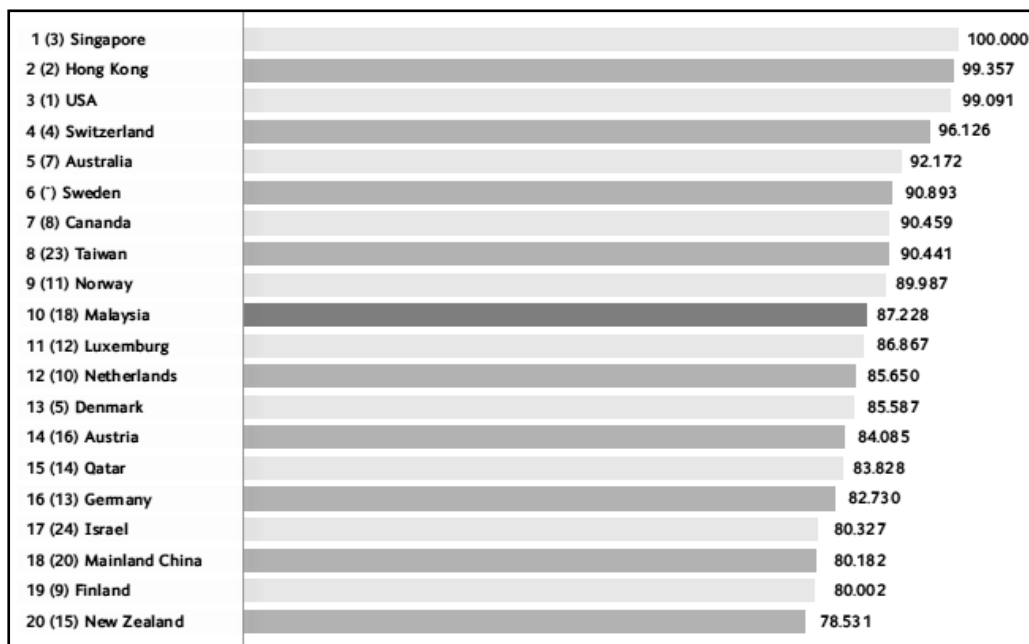
Figure 1. Phases of Halal Master Plan for Malaysia

In the perspective of worldwide marketplace, competitive advantages is the top most issues that facing by *halal* food firms in every place at every time as cited in works by Saifol (2011), Cole Ehmke (2008), Porter (2008), Sungkar (2008), Dess, Lumpkin and Taylor (2005), Barone and DeCarlo (2003), Porter (2001) and Khoo and Smith (1999). As well as important of competitive advantages to food firms business, the *halal* food firms will face a lot of non-stop challenges. In the one hand, competitive advantages will bring themselves into the right way forward and assist them to scan and follow the current change of external and internal environment of business, in order to generate new knowledge to the managers. However, in the other hand, competitive advantages has potential to bring more damage to *halal* food firms if they are not able to choose the suitable strategy to be implemented in the current practice of operation. Furthermore, competitive advantage is anything a firm does especially well compared to rival firms either in international operations or local operations of businesses.

Halal food studies

Tenth years ago, The United Nations has cited Malaysia as the best example in the world in terms of justification for the labeling of *halal* food when the Codex Alimentarius Commission adopted the Codex general guidelines for the use of the term *halal* in Geneva in 1997. Malaysia is seen as the world's most successful example where a single *halal* standard is applied throughout the country and this model has been regarded as the basis for the development of world Halal Food Industries (SME Annual Report 2006, 2007). Meanwhile, Dierks (2011) cited that with a global Muslim population of about two billion, the market for *halal* Food is estimated at US\$547 billion a year. The concept of *halal* is associated with food products, which are of high quality in terms of cleanliness, sanitation and compliance with religious requirements. Consequences, Malaysia's food manufacturer can contemplate joint ventures with established food manufacturers, particularly from Australia and New Zealand, to service the ASEAN, Middle East, European and US markets which have sizeable Muslim populations. Local *halal* food products can gain easy access into these *halal* markets as Malaysia's Halal Certification is globally recognized. With regard to these facts, the *halal* Food Industry in Malaysia provides immense opportunities for Malaysian business as increased of it future potential in local and global marketplaces.

In relation to *halal* food firms especially in Malaysia, there is no exception for them because competitive advantages, on one side can offer better opportunities to them especially to create more share market. However, on the other side, competitive advantages have potential to harm their future prospect and threatens their successful performance. One of the reasons is as cited by Barone and DeCarlo (2003) that was building sustainable competitive advantages revolves around differentiating a product from the competition along attributes that are important and relevant to customers. Similarly, Cole Ehmke (2008) believed that competitive advantages do not tend to stay competitive advantages without significant effort. Over time the edge may erode as competitors try to duplicate a successful advantage for themselves and as the market changes. In addition, looking at the ranks of Malaysia in World Competitiveness Scoreboard, as show in Figure 2, Malaysia has been listed in top ten ranking. By taking these facts together, thus, Malaysia is the most top priority choices of establishing the *halal* Food industry compared to other Muslim countries.



Source: IMDB World Competitive Yearbook 2010

Figure 2. World competitiveness scoreboard

Currently, the global market value for trade in *halal* foods is estimated at US\$547 billion a year. This large market has created interest from food producing countries worldwide. In this respect, Malaysia has the edge in being recognized internationally as a progressive Muslim country, where it has the potential of becoming a major producer of *halal* food products (Malaysia 3rd Industrial Master Plan). To realize this potential, apart from the commitment and support by the Government, the food-based *halal* industries are shown to be focusing their efforts in producing and exporting Halal food products. With Muslim population at a staggering figure of 1.8 billion, and amounting to a USD2.1 trillion (as at year 2008) industry, the global *halal* market is definitely an important market to tap into. The *halal* industry which also includes Islamic finance is currently estimated worth between USD200 billion to USD500 billion annually, with an annual growth rate forecast of 12% to 15% for the next 10 years. Malaysia is no stranger to this industry. In fact, the Malaysian Halal Certificate is one of the most sought after certification by *halal* producers worldwide (Dagang Asia Net, 2011). In addition, this is similar to Halal Research Council (2007) where listed eleven strategic thrusts have been set for the development and promotion of Malaysia as the global *halal* hub:

- enhancing the awareness on Malaysia as the centre for *halal* products and services;
- managing the increasing competition from countries in the region;
- leveraging upon outward investments to gain access to raw materials and enhance competitiveness;
- enhancing R&D in product and process developments and leveraging upon latest technological developments to expand the product range;
- developing *halal*-compliant services;
- utilising and leveraging upon Malaysian Halal Standard to differentiate Malaysia's *halal* products;
- ensuring product quality and food safety;
- undertaking systemic development of *halal* parks;
- harmonising the *halal* certification process;
- enhancing the coordination among agencies involved in the development and promotion of the industry; and
- strengthening the institutional capacity of organisations involved in the development and promotion of *halal* products and services.

In addition, Malaysia has also been hailed as the key player in the global Islamic finance market today. The Malaysian government has introduced a number of supporting measures, and beyond all doubt, this high level of government support has played a significant, if not major, role in establishing Malaysia as a leading centre for *Shariah*-compliant finance on a global scale. Therefore, Dagang Asia Net (2011) noted that the dynamics driving forces of the global *halal* food market includes Malaysia are:

- growth in the Muslim population, the primary market for *halal* food;
- rising incomes in primary markets for *halal* food;
- increasing demand for safe, high quality food in primary markets;
- increasing demand for greater variety in primary markets;
- incidents of food marketed as *halal* but failing to meet *halal* requirements has spurred demand for genuine *halal* products.

Theoretical Background

A competitive advantage exists when a firm has a product or service that is perceived by its target market customers as better than that of its competitors. Unfortunately, entrepreneurs are often confronted with two myths surrounding the creation of a competitive advantage. One is that most good business opportunities are already gone. The other is that small firms cannot compete well with big companies. Both of these ideas are erroneous. Nevertheless, existing companies, large and small, do not typically welcome competitors because it can affect their current and future performance (Dess, Lumpkin & Marilyn, 2005). Essentially, Cole Ehmke (2008) identified a competitive advantage answers the question, "Why should the customer purchase from this operation rather than the competition?" For some ventures, particularly those in markets where the products or services are less differentiated, answering this question can be difficult. A key point to understand is that a venture that has customers for a reason. Successfully growing business is often dependent upon a strong competitive edge that gradually builds a core of loyal customers, which can be expanded over time.

Theoretically, there are five factors that determine the nature and degree of competition in an industry, such as bargaining power of buyers, threat of substitutes, bargaining power of suppliers, rivalry among existing competitors and threat of new competitors. Dess, Lumpkin and Marilyn (2005) believed that to a large degree, these five market forces collectively determine the ability of a firm, whether large or small, to be successful, as similarly to Barone and DeCarlo (2003) and Evans (2003). Obviously, all industries are not alike; therefore, each force has varying impact from one situation to the next. Porter identifies numerous elements of industry structure that influence these five factors.

Commonly, there are strategies that can be used for leading the way of business performance, as listed in Table 1. There are twelve strategies that might be used by women entrepreneurs to sustaining the business life cycle. Some of the strategies are quite simple in terms of implementation and some of them are too difficult.

Table 1. Strategy options and implementation in organization

	Strategy	How to Implement
1	Cost leadership strategy	Companies produce products and/or services at the lower cost in the industry that are difficult to be replicated by other competitors.
2	Differentiation strategy	Companies offer different products, services, or product features to customers although the products or services have the same functions.
3	Operational effectiveness strategy	Companies improve the manner in which internal business processes are executed so that a firm performs similar activities better than rivals.
4	Innovation strategy	Companies introduce new products and service especially IT- based products to customer. Companies also can put new features in existing products and services and then, customers' perceptions will increase. Sometimes, companies must develop new methods to produce unique features of products or services.
5	Customer-orientation strategy	Companies concentrate on making customers happy and there are so many marketing programmes that are available such as bonus points, year end sales, purchase by purchase, and so on.
6	Time strategy	Companies treat time as a resource, then manage it and use it to the firm's strategic competitive advantage. But, the company must have good time monitoring systems.
7	Alliance strategy	Companies work with business partners in partnerships, alliances, joint ventures or virtual companies. So, they will share and use their advantages together.
8	Entry-barriers strategy	Companies create barriers to entry for new competitors and it could be resources, technology, skills, knowledge, raw materials, and so on.
9	Growth strategy	Companies increase market share, acquire more customers, or sell more products, in a long time frame.
10	Suppliers strategy	Companies encourage customers or suppliers to stay with you rather than going to competitors. So, a company 'locks in customers' with certain conditions, terms of agreement, policies, and so on.
11	Niche strategy	Companies select a narrow-scope segment in specific market segmentation and will be the best in quality, speed, feature or cost in that market.
12	Increase switching costs	Companies discourage customers or suppliers from going to competitors for economic reasons. The cost of switching becomes barriers to customers to move their attention to other products or services.

Sources: Nurwahida & Abdul Manaf (2009)

Strategy options and its practical implementation within women entrepreneurs' firms also discuss with specific focus on the use of Information and Communication Technology (ICT) as an integration platform. In the real market environment, ICT is the most cited tool by researchers to help women entrepreneurs' firms to strengthen their position in the current trends of market share. Finally, by adopting ICT as a platform to integrate their competitive advantages and strategy choices, so there can value added their long term prospect of business. In practice, one of the pressing factors that characterizes the modern global ICT business environment is information overload. Actually, information overload means the business environment is full with various types and kinds of information because information is generated every minute, hour and day. However, not all of this information is valuable to real practices of business. For instance, workers, researchers and even customers alike have millions of sources available on the internet and one of the common problems with the advent of the internet is anyone anywhere can create a homepage in half an hour and is supposed to contribute to new information. Furthermore, the entrepreneurs need to be selective in terms of selecting a suitable information resource according to their purposes.

With regard to strategy options and ICT-based strategy, SWOT analysis is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats of any types of industry includes in the *halal* food industry. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favorable and unfavorable to achieve the objectives of the industry. The technique is credited to Albert Humphrey, who led a convention at Stanford University in the 1960s and 1970s using data from Fortune 500 companies. Theoretically, SWOT is explains as below:

Table 2. SWOT analysis

Strengths (S)	Weaknesses (W)
List of internal strengths in relation to the Halal Food Industry	List of weaknesses in relation the Halal Food Industry
Opportunities (O)	Threats (T)
List of potential opportunities from external factors that can help to boost the Halal Food Industry	List of potential opportunities from external factors that can damages the Halal Food Industry

Technological advancement has become an integral part of Malaysia’s growth as an industrialized nation. With the help of technology, Malaysia is steadfast in providing for the modern day requirements of investor companies based in the country. Malaysia is one of the most technologically developed countries amongst industrializing nations in the ASEAN region. The nation’s persistent drive to engage modern technologies proves to be a great advantage to manufacturers in Malaysia. This is relevance to the *halal* food industry in Malaysia where ICT plays major roles in the success of the business. SME Annual Report 2006 (2007) has summaries that the rapid rate of technological change is something SMEs can no longer ignore in order to strengthen their competitiveness. A survey by the Small and Medium Sized Industries (SMI) Association of Malaysia showed that only 30% of SMEs in Malaysia embraced basic Information and Communications Technology (ICT). High priority has been given towards strengthening technological capabilities and capacities of SMEs in order to assist them in establishing technological leadership. In the process, it is the aim of the government to create a greater number of local technology based companies.

In addition, alongside the obvious advantage of ICT for increased efficiency, SMEs are also encouraged to explore ICT opportunities as a business model. As businesses turn more and more towards technology, SMEs should capitalise on the opportunity to be an enabler rather than consumer. To hasten this process, closer collaboration with specialised government research institutions and universities has been highlighted. Better ties will help overcome R&D constraints of SMEs. To speed up collaboration, a database on new technologies, processes, system designs and software will be set up for better promotion and dissemination of research from institutions and universities. A special dedicated fund will be set up to encourage SMEs to apply and undertake the commercialisation of potentially viable R&D results. The Government’s focus in R&D is already bearing fruit with intensity growing from 3.19% to 3.38% in one short year. The registered number of patents has also increased exponentially, doubling in number from 91 in 2004 to 160 in 2006 (SME Annual Report 2006, 2007).

Objective of the study

The objectives of the article are:

(a) to analyze the competitiveness of business environment of *halal* food industry in Malaysia with specific focus on the four main streams, as identified as strengths, weakness, opportunities and threats, also called SWOT.

(b) to suggest on how to use ICT-based strategy in applied the SWOT analysis of the *halal* food industry.

Method of the study

Basically, the SWOT analysis as a main methods of uses where each factors that has related to the *halal* food industry will screening and evaluating of it important. The SWOT analysis will be used in acquiring and analyzing any relevant information regarding *halal* food industry in Malaysia. Based on SWOT model, then, the information will be arranged in four quadrants, namely Strengths (S), Weakness (W), Opportunities (O) and Threats (T). According to Porter (2005) SWOT analysis plays important role in understanding the basic conditions on the currents environments with specific attention on four major elements of the industry as well as Strengths, Weakness, Opportunities and Threats.

In addition, unstructured interview has been conducted with academicians and experts in the area of *halal* business as well as Islamic business and *Muamalat*. In total, five academicians have participated in the study. The function of the interview session is to validate some information regarding *halal* food industry, as well as important to SWOT analysis.

Findings

The findings of SWOT analysis on the *halal* food industry are shown below:

Strengths

- Malaysia has good image as a modern Islamic country.
- Malaysian Halal Certification is perceived as more valid compared to non-Muslim countries.
- Malaysian products are perceived as safe and better quality like other ASEAN countries.
- Labour productivity is relatively high compared to other ASEAN countries
- Products promotions that produced by Halal SMEs that have sufficient capacity to meet importers demand among Muslim countries.
- Good performances of Halal SMEs to collaborate, form a consortium to achieve the size needed to meet importers demand.
- Most *halal* business are under capacity to venture into export markets.
- With Malaysia young and growing population, both consumption and production of food and beverage is increasing in Malaysia.
- The *halal* food industry has important export opportunities due to the diverse agricultural products available in Malaysia.
- Ability to understand Islamic Business Models as well as Islamic as a way of life.
- Knowledgeable in Islamic practices business as well as Islam is a official religious for the nation.
- The businesses have some knowledge in using Internet/ICT where ICT mega projects as well as Multimedia Super Corridor (MSC) has contributed much.
- Availability of Business Directory with updates information and reliable.
- Memberships in business forum/associations and so where create change in establishing collaboration with others countries.
- Reputation in marketplace where Malaysia is appreciated by UN as the best country of produce *halal* product.
- Expertise at partner level in some agencies or government related agency consultancy.

Weaknesses

- Problems faced dealing with Malaysian exporters as well as lack of professionalism (lack of follow-up, seriousness, lack of correspondence and very slow in response).
- Some of business firms just have a short-term perspective of business which affects them long term opportunities.
- Some of *halal* food firms have lacks of knowledge in term of legal, social, and cultural environment in the importing countries.
- No consistent supply which based on local and situational factors.
- Each firm has its own brand which divers the identity of Malaysian *halal* product.
- Lacks of attractiveness of products as well as lack of knowledge and training on product development.
- Packaging matters where it does not guarantee long shelf-life.
- Cost of production is high due to some factors and compared to other countries.
- No strategic alliances like importers or distributors especially on long term corporations.
- No private agents to market the products due to the lack of Islamic entrepreneurial skills as well as Islamic minded set.
- Halal firms do not have enough capital to effectively export their products.
- Halal firms are not able to identify consumer needs accurately in terms of taste and preferences.
- Almost all the new firms of local processed *halal* product do not follow market labeling requirements.
- The local economically volatile environment affected by the global economic crisis may hinder consumer spending as well as affecting the local and regional demand.
- *Halal* firms have limited capital or funding to buy ICT/systems where some of *halal* food firms still have not used sophisticated ICT/systems.
- *Halal* firms are weak in market *niche* researches as well as lack of budget in R&D activities.
- *Halal* firms have not enough knowledge in developing their own digital products.
- *Halal* firms have not able to deal with the big firms because of size or lack of ability.

Opportunities

- The growths in worldwide Muslim consumers. For examples, 60% of the Saudi's consumers are youth (< 35 years) and thus indicating a growing consumer markets and willing to try new products.
- Some countries have a high purchasing power, such as Arab countries as well as United States of American (USA) and European Union (EU) countries.
- The steady economic growths of Muslim countries such as Saudi Arabia (10%).
- Rising costs of production in EU and USA which has some impacts on the movement of production to low cost country.
- Government agencies in Malaysia contribute to developing awareness among international consumers about Malaysia as *halal* hub.
- Strong government supports for developing *halal* food processing activities.
- Growth in other related such sectors as tourism also benefits consumption in the *halal* food products.
- The *halal* market is still not mature; there are many opportunities for new *halal* food products to the worldwide market.
- More and more people do online research and purchases which can helps in reaching the online marketplace of *halal* food products.

Threats

- Stiff competition of the Malaysian *halal* food products especially from Thailand, Indonesia and the Philippines. The prices of the Malaysian products are generally higher due to the higher production costs.
- Subsidized tariffs for air transportation by Thailand can switch the foreigners' direct investment (FDI) to Thailand.
- Chinese products invading the markets, translated into cheaper prices.
- With declining in value of USD has resulted in the *halal* food products from Malaysia are more expensive compared to others countries such as Thailand (Bath), Indonesia (Rupiah), Philippines (Peso), and so on.
- Weak in International R&D that match *halal* food requirements of various Muslim countries.
- The unstable regulatory environment as well as production in agriculture also affects the *halal* food industry in term of suppliers of materials.
- High energy and raw material costs have a negative effect on the food and beverage manufacturers' performance.
- Competition in the new *halal* food industry due to new producers globally producing high quality and low priced food.
- Competitor is using high technology media to attract customer such as video, mp3, web, and so on.

Discussion

Conceptually, SWOT model helps *halal* food firms to understand the relative attractiveness of an industry. This model will help *halal* food firms to deal with new challenges of business and ensure the synergy between ICT and business well linked. In these issues, scholars such as Laudon and Laudon (2007); O'Brian (2007); Turban, McLean and Wetherbe (2007); Jongwoo Han (2004); Evans (2003); Hogg (2002); Rayport (2002); Porter (2001); Hamelink (2000); Kalakota and Robinson (1999). Kroeber (1998); and Kroenka (1999) have identified some of the new challenges of conducting the business which stress on the ICT sophistication. For examples, Laudon and Laudon (2007) and O'Brian (2007) coined that ICT challenges are:

- Recognize that ICT often is the primary enabler of business solutions.
- Increase the technological maturity of the business entities.
- Create a fabulous vision of the future of ICT and promote it to an executive level in business management.
- Implement the ICT architecture that will support the business vision.
- Manage ICT info-structure's safety, with high security and guarantee.

As mentioned in SWOT model as well as Porter's Five Forces Model, analyses of a company's strengths and weaknesses are important because as new generation managers they must know how to increase the company's strengths, and at the same time decrease or hide the company's weaknesses from competitors. But, how could the *halal* firms include ICT in the analysis of a corporation's strengths and weaknesses? From a strategic management point of view, ICT components are important in corporation business planning because:

- ICT provides basic tools and techniques for analyzing early warning signals that originate push out from both externally and internally.
- ICT provides the information necessary to make strategic decision making activities or phases, such as environmental scanning, problem detection, solution identification, and toward the end, formulation of the suitable strategy.

Conclusion

In conclusion, because of the internet revolution, most of business managers find it cheaper and easier to relate to external parties such as suppliers and customers, enabling the company to meet a competitive problem identified using the competitive force model. The competitive force model has also changed in the internet era because firms do not just compete with each other within the same industry but they also compete as part of industry sets. Moreover, establishing the good business models is not good enough because as managers, they must know how to link between a business models with internet. In order to achieve and maintain a strategic advantage, a manager must carefully plan and manage their ICT and use it in the right way. In addition, the manager also must pay good attention on how those ICT resources in organization are utilized and channeled to a current strategy being implemented. Thus, when designing the strategic ICT, the management has to examine the basic required changes such as business goals, customer niches, supplier relationships, internal operations, rules and regulations, and many more and also information systems design and architecture. Additionally, the excellent management skills and advanced approaches are required to boost the new business processes for monitoring and controlling their activities and make it suitable for their customers, suppliers and other stakeholders' requirements.

References

- Abdul Manaf Bohari (2008) *Management information system*. Asia e-University Publication, Kuala Lumpur.
- Ananda S (2008) Global Halal Presence. *Business Today*. June 8 (6), Reach Publishing.
- Barone MJ, DeCarlo TE (2003) *Emerging forms of competitive advantage: Implications for agricultural producers*. Midwest Agribusiness Trade Research and Information Center Research Paper 03-MRP 5.
- Chang J (2007) Malaysia Market Development Reports World Halal Forum and Malaysia's Role. *Global Agriculture Information Network (GAIN) Report*, MY7021.
- Cole Ehmke, M.S. (2008). *Strategies for competitive advantage*. Department of Agricultural and Applied Economics, University of Wyoming.
- Dagang Asia Net (2011) *The Emerging of Global Halal Market* [cited May 11, 2011]. Available from: <http://www.dagangasia.net/articles>.
- Dess GG, Lumpkin GT, Taylor ML (2005) *Strategic Management (2 ed)*. McGraw-Hill Irwin, New York.
- Dierks (2011) Market Watch 2010 – The Food Industry. _____: Malaysian-German Chamber of Commerce & Industry.
- Evans N (2003) *The needs for enterprise innovation*. [cited May 24, 2010]. Available from: <http://www.informit.com>.
- Halal Research Council (2007) *Development of the halal industry*. [cited 28 May, 2010]. Available from: www.halalrc.org.
- Hamelink (2000) *ICT for information age*. Prentice Hall, New Jersey.
- HDC (2008) HDC will be pro-business. *The Halal Journal*. [cited 25 June, 2008]. Available from: http://www.halaljournal.com/artman/publish/article_906.shtml.
- Hogg DL (2002) *Introduction to ICT*. Prentice Hall, New Jersey.
- Janis MZ (2004) Malaysian Standard MS1500. *Standards & Quality News*, 11(4).
- [Jongwoo Han](http://classes.maxwell.syr.edu/PSC300_103/) (2004) *Contemporary issues in the information age*. [cited 24 May, 2004]. Available from: http://classes.maxwell.syr.edu/PSC300_103/.
- Kalakota R, Robinson M (1999) *e-Business: Roadmap for success*. Addison-Wesley, New Jersey.
- Khoo Kheng-Hor, Smith NM (1999) *Strategic Management: A Delightful Blend of Academic Learning and Street-Smart Practices*. Pelanduk Publications, Subang Jaya.

- Kroeber DW (1998) *Management information system: A handbook for modern managers*. Penguin Publication Team, Washington.
- Kroenka D (1999) *Management information system*. Mitchell Publishing, Washington.
- Laudon, Laudon (2007) *Management information systems*. McGraw-Hill, New York.
- Malaysia (2000) *Ninth Malaysia Plan 2000-2005*. Economic Planning Unit, Jabatan Perdana Menteri, Kuala Lumpur.
- Malaysia Food Business Directory (MFBD) (2007) *Food Industry In Malaysia: An Overview*. [cited 2 May, 2007]. Available from http://www.foodbizmalaysia.com/ttd_bizenterprise
- Malaysia (2008) The Global Halal Hub. *New Straits Times*. July 12.
- Malaysia (2006) *Third Industrial Master Plan (IMP3)*. MITI, Kuala Lumpur.
- Malaysian Institute of Economic Research (2005). *Halal Food Industry Deserves More Attention*. MIER, Kuala Lumpur.
- O'Brian JA (2007) *Management information systems: Managing information technology in the business enterprise*. MacGrawHill Irwin, New York.
- Porter M (2001) Strategy and the internet. *Harvard Business Review* 79(3), 63-78.
- Porter ME.(2008) *The Five Competitive Forces That Shape Strategy*. Harvard Business Review.
- Raja Adam Z (2006) RM100m boost to make Malaysia halal hub. *Business Times*. Sep 2006.
- Ramli N (2006) Halal - The New Global Market Force. Legal Insights A Skrine Newsletter, Issue 2/2006, June 2006. [cited 21 May, 2006]. Available from: <http://www.skrine.com/get.php>.
- Rahman L (2007) *Syariah and Malaysian Halal Certification System*. Bengkel Audit Dari Perspektif Syariah, Bahagian Hub Halal. Jabatan Kemajuan Islam Malaysia
- Rayport J (2002) *Introduction to e-commerce*. McGraw-Hill/Irwin MarketplaceU, Boston.
- Riaz MN, Chaudry MM (2004) *Halal food production*. CRC Press LLC, Florida.
- Saifol Bahli (2011) Awareness of the Halal Industry. *International Halal Conference Pakistan 2011*. 22 – 23 March 2011, Sheraton Hotel, Karachi, Pakistan.
- Seong LW, Rizal MAW (2006) The Potential of Halal Industry in Penang. *Penang Economic Monthly*, November, 8(11).
- Sungkar I (2008) The Global Trends and Halal Trade Issue. *The Halal Journal*, May/June 2008.
- Sungkar I (2008) Muslims' Awareness of Halal in the age of Globalisation. *The Halal Journal*, May/June 2008.
- SME Annual Report 2006 (2007) *Potential Growth Areas for SMEs*. National SME Development Council, Kuala Lumpur.
- Turban E, McLean E, Wetherbe J (2007) *Information technology for management: Making connection for strategic advantages* (2nd ed). John Wiley & Sons, New York.
- Nurwahida Fuad, Abdul Manaf Bohari (2009) Competitive advantages and strategy options for women entrepreneurship: ICT as integration platform. *The Third International Conference on International Studies (ICIS2010)*. Organised by College of Law, Government and International Studies (COLGIS) and Institute of Tun Dr. Mahathir Mohamad's Thoughts (IPDM) of University Utara Malaysia (UUM), Association of International Studies Malaysia (AIS) and University of Paris-Diderot, France. Location: Hotel Istana, Kuala Lumpur. 1-2 December 2010.
- Yusof MH (2004) Halal Certification Scheme. *Standard and Quality News*, 11(4).