

**DETERMINING FACTORS FOR THE USAGE
OF WEB-BASED MARKETING APPLICATIONS:
AN ANALYSIS OF SMEs IN PENANG, MALAYSIA**

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ABSTRAK

Tujuan kajian ini adalah untuk mengenal-pasti faktor penentu terhadap penggunaan pemasaran melalui web di kalangan firma-firma saiz kecil dan sederhana di Pulau Pinang, Malaysia. Tambahan lagi, kajian ini juga bertujuan untuk menilai tahap penggunaan pemasaran melalui web di kalangan firma-firma saiz kecil dan sederhana di Pulau Pinang, Malaysia. Faedah yang mungkin diperolehi daripada penggunaan aplikasi tersebut juga dikajikan.

Kaedah yang digunakan di dalam kajian ini adalah tinjauan soal selidik. Borang soal selidik telah dihantar ke firma-firma saiz kecil dan sederhana di Pulau Pinang yang tersenarai di dalam direktori terkini persatuan SMIs Malaysia serta sumber-sumber lain. Faktor penentu telah dikenal pasti melalui ulasan karya dan telah diekstrak dengan menggunakan prinsip principal analisis komponen untuk data tinjauan. Faktor yang mungkin mempengaruhi penggunaan pemasaran melalui web oleh firma-firma saiz kecil dan sederhana di Pulau Pinang, Malaysia adalah ciri-ciri teknologi, ciri-ciri organisasi, dan ciri-ciri persekitaran. Walaubagaimanapun, keputusan menunjukkan bahawa hanya faktor-faktor yang berkaitan dengan teknologi seperti keselamatan dan maklumat sulit mempunyai pengaruh terhadap penggunaan pemasaran melalui web. Oleh itu, rumusan yang dapat dibuat adalah walaupun terdapat banyak faktor yang mungkin mempengaruhi penggunaan pemasaran melalui web oleh firma-firma saiz kecil dan sederhana di Pulau Pinang, Malaysia, hanya faktor berkenaan ciri-ciri teknologi sahaja yang mempunyai pengaruh penting terhadap penggunaannya.

Melalui analisa yang dibuat terhadap data yang diperolehi adalah didapati bahawa tahap penggunaan pemasaran melalui web di antara firma-firma saiz kecil dan sederhana di Pulau Pinang, Malaysia adalah rendah; kebanyakan firma hanya menggunakan aplikasi pemasaran melalui web pada tahap asas sahaja dan tidak menggunakan aplikasi yang lebih maju. Sebagai contoh, aplikasi pemasaran melalui web yang paling banyak digunakan adalah emel manakala aplikasi yang paling jarang digunakan adalah system pembayaran melalui talian. Tambahan juga, manakala banyak firma-firma saiz kecil dan sederhana mempunyai laman-laman web, kebanyakan daripada mereka menggunakannya hanya untuk memaparkan produk dan maklumat syarikat, daripada menyertakan cirri-ciri termaju seperti urus niaga melalui talian dan perkhidmatan pembayaran melalui talian.

Adalah didapati juga kebanyakan firma-firma saiz kecil dan sederhana di Pulau Pinang Malaysia yang telah menggunakan pemasaran melalui web hanya memperolehi beberapa faedah sahaja melalui aplikasi tersebut. Faedah yang didapati adalah di bahagian perkhidmatan pelanggan, peluasan pasaran, dan pengurusan inventori. Firma-firma saiz kecil dan sederhana yang telah menggunakan aplikasi pemasaran melalui web juga didapati tidak mampu meningkatkan prestasi keseluruhan mereka, keuntungan syarikat dan kecekapan di bahagian sokongan.

ABSTRACT

The purpose of this study is to investigate the determining factors for the usage of Web-Based Marketing applications by Small and medium-sized enterprises (SMEs) in Penang, Malaysia. In addition, this study intends to assess the extent of usage of Web-Based Marketing applications among SMEs in Penang, Malaysia. The potential benefits from the usage of Web-Based Marketing will also be highlighted in this research.

The methodology employed in this study was questionnaire survey. Questionnaires were sent to the SMEs in Penang who were listed in the latest official business directory of SMI association of Malaysia as well as other sources. The major determining factors were identified from the technology innovation adoption literature review and were extracted by applying the principal component analysis to the survey data. Examination of the factors that might influence the usage of Web-Based Marketing applications by the SMEs in Penang Malaysia were identified as technology characteristics, organizational characteristics, and environment characteristics. However, results showed that only factors related to technology such as security and privacy are found to have influences on the usage of Web-Based Marketing. Therefore, it was concluded that while many factors could influence the usage of Web-Based Marketing by the SMEs in Penang Malaysia, only the factor pertaining to technology characteristics has significant influence on its usage.

Analysis of the data obtained found that the general usage of Web-Based Marketing among the SMEs in Penang, Malaysia is low; most firms seemed to have implemented only basic Web-Based Marketing applications and do not use advance Web-Based Marketing applications. For example, the most used Web-Based Marketing application is email whereas the least used application is online payment system. Furthermore, while a substantial number of the SMEs have implemented web sites, they were used merely to display products and company information rather than having advanced features such as providing online transactions and online payment services.

Analysis of benefits realized found that most of the SMEs in Penang Malaysia, which have adopted Web-Based Marketing, only gained some of the benefits of Web-Based Marketing. Benefits realized were in the areas of customer service, market expansion, and inventory management. Also, the SMEs who have adopted Web-Based Marketing seemed incapable of improving their overall performance, profitability and back-end efficiency.

Chapter 1

Introduction

1.0 Introduction

Development in information technology has ceaselessly had profound marketing implications. For instance, the internet has changed the way companies communicate, how they share information with business partners, and how they buy and sell. Various reports from several surveys and research for example, Active Media Research LLC, 2000; have indicated that the medium of the internet and the development of e-commerce are progressing extremely fast on a global scale. With the connectivity to the Internet reaching over 1.4 billion by June 30, 2008 (www.internetworldstats.com), the Internet's presence is undeniably commanding and poses both tremendous opportunities and challenges for web-based marketing.

Web-based marketing can be defined as the use of the Internet and related digital technologies to achieve marketing objectives and support the modern marketing concept (Chaffey et al., 2000). According to Pallab Paul (1996), Fortune 500 companies such as Xerox, IBM, Merrill Lynch, Motorola, Intel, Digital Equipment, and Hewlett Packard, are using Internet as an important marketing tool through which they communicate internally with their business partners and with their customers. There is an additional source of revenue made possible by using Internet as an alternative marketing and distribution channel. According to Bocij et al (1999), the benefits of an Internet presence can be summarized as cost reduction, increase capability, competitive

advantage, communication improvement, control and customer service improvement. Large and small companies are embracing the Internet as a fundamental communication tool used to conduct daily business. There are many concrete examples that shows benefited from this new technology implications. Dell's on-line customers buy \$6 million worth of products each day. These products provide a 30% higher profit margin than those purchased by its non-self-service customers. Cisco's systems have saved over \$550 million per year in customer service for the last three years and now do 62% of its \$5 billion per year business over the Internet (Seybold, 1998).

In parallel with the technological revolution, however, it is now small firms that are regarded as being more innovative (Baldwin & Johnson 2001; Rothwell 1995). In addition, Turpin (2002) reports that small firms are making significant contributions of economy growth within Australia, Taiwan, Indonesia, China, Japan, UK, US and they are contributing at a faster rate than larger firms to recover from the previous Asian economic crisis. Thus, this study will focus on SMEs in Penang, Malaysia.

1.1 Web-Based Marketing in Various Countries

Several Asian countries such as Hong Kong, Korea, Malaysia and Singapore are in the process of creating IT infrastructure that will facilitate Web-based Marketing innovation. These countries are aware that the next several years will see tremendous growth in business-to-business Web-based marketing. Businesses in Asia will need to link their value networks in order to maximize

resources and economize on costs given the potential offered by Web-based marketing.

There are 92,000 SMEs in Singapore and together, they make up 92% of all establishments, and employ 53% of the workforce. Yet SMEs contribute only 34% to Singapore's GDP (NCB,1999). According to Anderson (1998), Asian businesses are still reluctant to infuse web-based marketing into their business process. Prior research in Singapore has indicated that merchants are still uncertain about the business potential of the Internet as a medium for trading and payment. Security concerns emerged as the most important consideration to merchants when using the Internet.

In 1999, the results of NCB survey of 666 Singapore businesses hinted the same low of practices of business-to-business Web-based Marketing. Results indicated that only 8.5% of the surveyed firms were current users of business-to-business Web-based Marketing and that a further 4.7% were "extremely interested" in adopting business-to-business Web-based Marketing. In contrast, 23.3% were "somewhat interested" and 63.5% were either not interested in adopting business-to-business Web-based Marketing or did not feel sufficiently well informed to answer the question.

The recent Internet boom in Korea has been receiving enormous attention from the international business community and the news media. Korea was praised as a regional leader of

the new economy and dotcoms in Asia, with an advanced infrastructure and a high rate of internet users. As of April 2004, more than 16 million households, 78% of total, have high-speed, broadband Internet access in Korea (www.chiefexecutive.net).

According to Malaysia SME Jan/2009- The SME Paper, Korea's SMEs evidently play a pivotal role in the national economy, accounting for 99.9% or over three million in number of all enterprises in the country. The sector also contributes 97.5% (9 million) of the nation's total working population, in addition to providing 42.2% of total export of just over US\$194 billion annually. However, many SMEs in Korea have not been successful in exploiting the potential opportunities of adopting the Web-based Marketing., despite intensified efforts by the government and the business community in Korea. Small firms are often weak in terms of financing, control, training, planning and information, due to a chronic lack of human and financial resources (Blili and Raymond, 1993). According to a recent survey conducted by the Small and Medium Business Administration (SMBA) in Korea, only about half of the SMEs in Korea among 200 SMEs surveyed have adopted Web-Based Marketing as of 1999.

A report by the OECD, also listed some of the major barriers for SMEs in emerging economies, including Korea, to adopt Web-based Marketing, such as a lack of awareness of the positive impact and benefits of Web-based Marketing, lack of skills and experts, limited financial

resources, fixed costs associated with Web-based Marketing implementation, and concerns about Internet security.

According to the recent (2006/07) Banking Survey done by IFC of the SME Market, in Sri Lanka, SMEs constitute 80-90% of total establishments and 20% of industrial value added. It accounts for 70% of employment generated in the business sector. However the large scale Industries contributes 80% of total value addition in the Industrial sector.

Small and medium-sized enterprises (SMEs) in the rural areas of Sri Lanka struggle to exist in today's globalised economy. They are hampered by the lack of technology and access to credit and markets, as well as competition from foreign products. In a study of Sri Lanka SME capability to adopt e-commerce conducted by the Sri Lanka Business Development Centre in 2002 identified the key factors inhibiting the adoption of e-commerce by SMEs as lack of knowledge and awareness about the benefits of electronic commerce, current unpreparedness on the part of the SMEs to adopt e-commerce as a serious business concept, lack of exposure to IT products and services, language barriers and lack of staff with IT capability.

1.2 Web-Based Marketing in Malaysia

During the last decade, Malaysia has experienced a rapid development that places the country on the world map within the high-tech sector, including segments such as Information and Communications Technology (ICT), hardware and software, and IT-services in general. Several programs and projects have been implemented to encourage a wider diffusion of ICT in the economy. The key initiative is the Multimedia Super Corridor (MSC), which is a hub designed to promote multimedia products and services, by bringing together a legislative framework and a next-generation telecommunications infrastructure.

ICT allows effective and speedy communications and can ensure timely responses to market requirements. Thus, SMEs need to develop their ICT capabilities in order to be compatible with, and participate in, the supply chain of MNCs. In this regard, and in order to support the participation of SMEs in the international supply chain, the government provides financial assistance for eligible enterprises to adopt RosettaNet common messaging standards for business communication in the Electrical and Electronics sector. While other sectors are to utilize the ebXML (e-business Extensible Mark-up Language) as advised by the United Nations (SMIDEC, 2004).

However, SMEs in Malaysia faces still lag behind in the practice of Web-based marketing. As reported in FMM 2001, three factors has been identified as the source of SME's information technology adoption problems: (1) Lack of Awareness in the importance of web-

based marketing tools in SMEs, (2) Low distribution of web-based marketing practices within the organization, and (3) Business associations are not good role models in state-of-the-art IT usage. Other than that, there is no study done to validate this finding and also to investigate the factors affecting the practices of Web-based marketing in SMEs Malaysia. Thus, this study aims to explore factors that influence the practice of web-based marketing among SMEs in Penang, Malaysia. The impact of the practice of web-based marketing on business performance also will be examined.

1.3 Problem Statement

SMEs have been the backbone of economic growth of an economy in driving industrial development. In Malaysia, SMEs represent 99.2% of total business establishments, account for 65.1% of total employment, contribute 47.3% to GDP and account for 19% of total exports (SME Info). Realizing the role of SMEs, the government's commitment and concern for the development of SME were reinforced. In 2008, 198 programs are being implemented with a financial commitment of RM3.2 million (The Sun, July 25 2008). These programmes are mainly aimed at encouraging the development of innovative products and automating processes, to keep pace with global demand for high quality and competitively priced products and services. The following are some of the programmes implemented in 2008.

(a) Strengthening Enabling Infrastructure

- SME Credit Bureau by CGC - BNM

- Promotion of sustainable microfinance - BNM
- Transformation of Bank Pertanian Malaysia - BNM
- Set-up of stall, business premises and factories for rural entrepreneurs - MRRD
- Breeding and Reproduction Centre for Boer goats - MRRD
- Provision of Business Premises - MECD
- Incubation Centres in SIRIM - MOSTI
- Centre to collect, dry and process cocoa beans - MPIC
- Marketing infrastructure to package, distribute and market agriculture products - MOA

(b) Building Capacity & Capability

- Provision of financial advisory services for SMEs - BNM
- Entrepreneur Guidance programme to inculcate entrepreneurship among Orang Asli - MRRD
- Entrepreneurship acculturation at schools and universities - MECD
- Product and Technology Development programme for SMEs in Telecommunication sector

MEWC

- Taste of Malaysia - MDTCA
 - SME Mentoring programme with Nestle - HDC
 - Training programme for budget hotel operators
- MOTOUR
- Product branding programme - MOA
 - SMIDEC Annual Showcase (SMIDEX 2008) - MITI

(c)Enhancing Access to Financing

- Venture Capital for the Agriculture Sector - BNM
- Rural Economy Funding Scheme - MRRD
- *Bantuan Ekonomi Kampung*- MRRD
- MARA Business Financing Scheme - MECD
- Funding for Early Stage Technology Commercialisation - MOSTI
- Soft Loan through Japan Bank for International Cooperation for ICT and Biotech sectors - MOF
- Special Fund for Tourism - MOTOUR

However, despite the efforts of governments and the various support programs, the number of SMEs achieving advanced stages of Web-based marketing is very low and lags behind larger companies in their use. The Malaysian SMI Association revealed that only 30% of the local SMEs have their own websites; some are mainly still at the initial stage, not progressing much beyond e-mail and simple information-based web-pages.

In view of the low usage of Web-Based Marketing among the SMEs in Malaysia, there is a need to examine factors that could be contribute to the Web-Based Marketing usage among the SMEs in Malaysia.

1.4 Research Objectives

The objectives of this research are as follows:

1. To assess the extent of usage of web-based marketing among SMEs in Penang, Malaysia.
2. To study the potential benefits that can be obtained by SMEs that participate in web-based marketing
3. To investigate the factors influencing the usage of web-based marketing in SMEs Penang, Malaysia and
4. To make recommendation based on the findings on how to encourage usage of web-based marketing programs.

1.5 Research Questions

Based on the research objectives, the extensive literature review, the following are questions that attempt to answer by this research:

1. Does security and privacy influence the usage of web-based marketing?
2. Does ease of use influence the usage of web-based marketing?
3. Does entrepreneurs attitude and knowledge influence the usage of web-based marketing?
4. Does product fit influence the usage of web-based marketing?

5. Does technical knowledge of the firm influence the usage of web-based marketing?
6. Does customer pressure influence the usage of web based marketing?
7. Does competitors pressure influence the usage of web-based marketing?
8. Does the governmental support influence the usage of Web-based marketing?

1.6 Significant of the study

The finding in this study is important because the answer holds the clue that lead to better understanding of why and why not SMEs practice web-based marketing applications. It will help the government to plan effective strategies for encouraging SMEs participation in this new technology. On top of that, with the information provided by this research, manager and business owner will have enhanced knowledge of the internet areas they need to focus on supporting web sites and internet strategies. In addition, it will help them to have a holistic view on this area and thus useful for new internet investment decision.

1.7 Definition of Key Term

The following are the key words and phrases used in this research with its definitions in respect to this document.

- i. Web Based Marketing - use of the Internet and related digital technologies to achieve marketing objectives and support the modern marketing concept (Chaffey et al., 2000). It also refers to e-business or e-commerce (Hoffman and Novak, 1997).

- ii. SMEs - It refers to small and medium-sized enterprises (NSDC, 2005).
- iii. Technology Characteristic - in technology aspect, it refers to security and privacy; and ease of use.
- iv. Security and Privacy - security refers to the protection of information or systems from unsanctioned intrusions or outflows (Wang et al., 2003). Privacy, on the other hand refers to the protection of various types of data that are collected during users' interaction with the Internet system (Wang et al., 2003).
- v. Ease of Use - it refers to "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989).
- vi. Organizational characteristic - there are three aspects to organizational readiness namely, Entrepreneur's attitude and knowledge, product fit, and technical knowledge availability of the firm which is going to elaborate below.
- vii. Entrepreneur's attitude and knowledge - it refers to a settled way of thinking or feeling about someone or something, typically one that is reflected in a person's behavior. It also include expert and skills of entrepreneurs. (Poon and Swatman 1999).
- viii. Product Fit - it refers to the suitability of the company's product to transact over the internet. (Lee and Jordan, 2006)
- ix. Technical knowledge availability of the firm - it refers to the availability of technical knowledge to do business over the internet. (Jeon et al., 2006)
- x. Environment Characteristic - there are three components in this variable namely: customer pressure, and competitors pressure, and government support.

- xi. Customer Pressure - it refers to the influential or the requirement of customers. Poon (2000)
- xii. Competitors Pressure - it refers to the influence or intimation to make someone do something from competitors. (Jeon et al., 2006)
- xiii. Government support - it refers to government support provided in the form of technical or incentives. (Jeon et al., 2006)
- xiv. Usage of Web-Based Marketing - it refers to practice or utilize of Web-Based Marketing.

1.8 Organization of Remaining Chapters

This report consists of five chapters. Chapter 1 serves as an introduction to the research with touches some background of the study. It also highlights the problem statement, the research questions outlined to be answered, the research objective and the significance of the study.

Then, Chapter 2 which reviews the literature on the elements related to this research, the important constructs and variables. The development of the theoretical framework and the hypotheses will be defined subsequently under this chapter.

The methodology used for this research which consists of research design, variables, population, sample, questionnaire data, data collection and analyses are explained and put up in Chapter 3.

Chapter 4 outlines the demographic of the respondents, descriptive analysis and the statistical results.

The research concludes in Chapter 5 with the discussion of the results. The contribution and implication from the research are explained. Limitation is stated with recommendations for future research.

Chapter 2

Literature Review

2.0 SMEs in Malaysia: overview

The National SME Development Council (NSDC), on 9 June 2005, approved the common definitions of SMEs across all economic sectors, for adoption by all Malaysia Government Ministries and Agencies involved in SME development, as well as financial institutions. Generally, SMEs are defined in two broad categories:

i) Manufacturing, Manufacturing-Related Services and Agro-based Industries

“Small and medium enterprises in the manufacturing, manufacturing-related services and agro-based industries are enterprises with full-time employees not exceeding 150 or with annual sales turnover not exceeding RM25 million.”

ii) Services, Primary Agriculture and Information & Communication Technology (ICT)

“Small and medium enterprises in the services, primary agriculture and Information & Communication Technology (ICT) sectors are enterprises with full-time employees not exceeding 50 or with annual sales turnover not exceeding RM5 million.”

As reported in the SME Annual Report 2007, SMEs in Malaysia account for 99.2 percent or 518,996 of total establishments in the three (3) key economic sectors, namely manufacturing,

services and agriculture. Large establishments numbering 4,136 accounted for the remaining 0.8 percent. Most of the SMEs predominate in the services sector, accounting for 86.5 percent of the total establishments. Their presence in the manufacturing and agriculture sectors are only 7.3 percent and 6.2 percent respectively.

Employment generated by SMEs was approximately 3.0 million workers (65.1 percent) of the total employment of 4.6 million engaged in the three (3) main sectors. The services sector employed the largest number, 2.2 million, followed by the manufacturing sector, 740,438 and agriculture sector, 131,130. Full-time employees totalled 2.3 million workers (76.5 percent) while self-employed workers made up 16.7 percent and part-time workers, the remainder (6.8 percent).

The role of SMEs in the Malaysian economy is demonstrated by their contribution to output and value added, RM405 million and RM154 million respectively in 2003 (see Table 2.1). In terms of share contribution, SMEs accounted for 43.5 percent of total output and 47.3 percent of value added. It is noted that SMEs in the services sector contributed the largest share, 56.7 percent and 54.7 percent respectively. SMEs in the manufacturing sector saw a 34.9 percent contribution in output and 37.1 percent in value added.

Table 2.1:
Output and Value added by sector, 2003

Sector	Output (RM billion)			Value added (RM billion)		
	Total	SMEs	%	Total	SMEs	%
Manufacturing	549.1	191.6	34.9	128.1	47.5	37.1
Services	361.7	204.9	56.7	187.6	102.7	54.7
Agriculture	20.6	8.7	42.1	9.1	3.6	39.7
Total	931.4	405.2	43.5	324.7	153.7	47.3

Note: This data is only available up to year 2003.

a. The Manufacturing Sector

In 2007, 96% of establishments in the manufacturing sector were SMEs, contributing 30.7% of total manufacturing output and 26.3% of total value added. In addition, more than 400,000 or 31.6% of the total workforce was employed in this sector.

Table 2.2
Total Output and Value Added for Manufacturing

	Value Level		Percentage Share of Manufacturing Sector (%)		Growth (%)
	2006	2007	2006	2007	2006-2007
Total Output	88,266	94,356	29.31	30.74	4.91
Value Added	17,798	19,251	25.66	26.33	8.16
Employment	402,496	413,397	31.21	31.62	4.91

*Value Levels for Total Output and Value Added are in RM million

(Source: Annual Survey of Manufacturing Industries, Department of Statistics, Malaysia,)

By industry sub-sector, the food products and beverages sub-sector recorded the largest contribution among SMEs, accounting for 32.3% share of total output. This was followed by chemicals and chemical products which recorded a 16.5% share, rubber and plastic products 10.2% of share and furniture 4.1% share of the total output. These industries accounted for 63%, valued at RM59.5 million, of total output by SMEs in 2007.

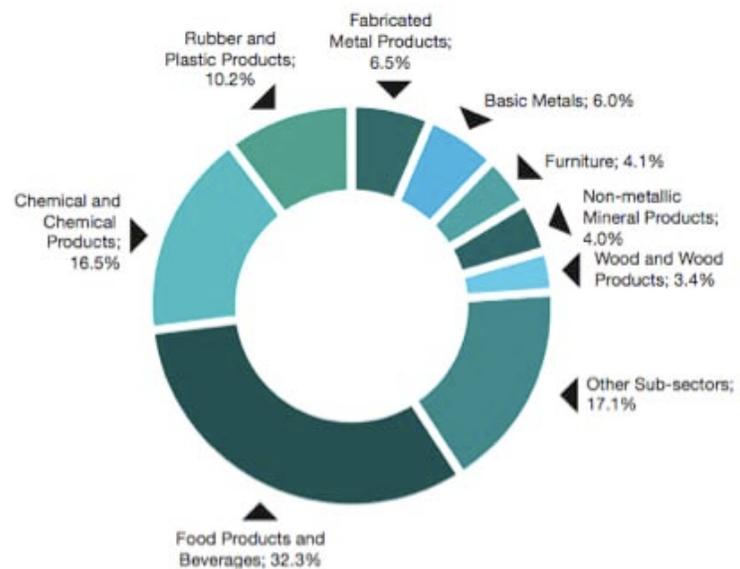


Figure 2.1 Distribution of SMEs' Output in the Manufacturing Sector
 (Source: Annual Survey of Manufacturing Industries,
 Department of Statistics Malaysia)

b. The Agriculture Sector

The agriculture sector contributes significantly in terms of both national revenue and employment; delivering 7.7% of the GDP and 12.1% of total employment in 2007. The sector

generated export earnings of RM82 billion as a result of favourable commodity prices in the international market. In addition, the sector recorded a productivity growth of 2.8% in 2007.

Structurally, the agriculture sector comprises of estates or plantation companies and the SMEs in the farming sector. The plantation companies are primarily involved in the cultivation of export oriented crops such as oil palm and rubber. The SMEs are mainly involved in the cultivation of both food and non-food crops, livestock breeding, fisheries and aquaculture.

c. The Service Sector

SMEs accounted for 99.4 percent (449,004) of total establishments in the services sector. The profile in this sector indicates that 80.4 percent of SMEs are characterised as micro, 17.6 percent as small and 2.0 percent as medium establishments. More than half of SMEs (55.3 percent) were concentrated in the wholesale and retail sub-sector, 14.5 percent in restaurants and hotels, and 6.2 percent in transport and communications. The other sub-sectors of professionals, health, education, real estate activities, business/management consultancy made up the remaining 24.0 percent.

Output generated by SMEs was 56.7 percent of total output (RM361.7 billion) in the services sector. SMEs in the restaurant sub-sector (including cafes, coffee shops, hawkers and stalls) accounted for 85.1 percent of output of the restaurant services; followed by real estate activities (79.3 percent); retail (79.1 percent); business/management consultancy (74.2 percent)

and professionals (71.7 percent). In contrast, SMEs in the telecommunication sub-sector contributed 1.9 percent of output, indicating the dominance of large establishments in this sub-sector.

The services sector is the major contributor to the economy, contributing 53% to GDP in 2007. In the same year, output growth in the sector strengthened to 9.7% compared to 6.8% in 2006. This was mainly supported by strong domestic consumption, expansion in finance, insurance activities and the intensification of business and tourism activities.

2.1 Types of Web-Based Marketing applications

Web-based marketing can be defined as the use of the Internet and related digital technologies to achieve marketing objectives and support the modern marketing concept (Chaffey et al., 2000). The term ‘electronic commerce or e-commerce is often used in a similar context to Internet marketing or web-based marketing, and has become a standard term recognized for business transactions conducted on the internet. It is a term that encompasses a range of business activities such as selling online, online bill payments, home shopping/banking, and improving market efficiency in dealings with suppliers and clients (Hoffman and Novak, 1997). Some authors such as Zwass (1998) extend the meaning of electronic commerce to incorporate ‘sharing business information and maintaining business relationships’.

Berthon *et al.* (1996) describe the Web as a cross between an electronic trade show (with buyers and sellers, browsing, searching and interacting) and community flea market (which is open and informal). They further describe the Web applications for the marketing mix as :

- providing detailed product information and specifications;
- gaining access to previously unknown or inaccessible buying influences;
- projecting a favorable corporate image;
- fostering and encouraging customer involvement with the product range;
- establishing interactively, offering product samples and building a customer database;
- providing product distribution.

Usage of e-commerce could be categorized into the following areas: communication, researching for information, marketing, business with suppliers and business with customers (Daniel et al. 2002).

On the other hand, Martin and Matlay (2003) found that the main applications of e-commerce are related to marketing activities. It is suggested that common e-commerce applications such as email and websites could be employed as cost-effective marketing tools in terms of information dissemination, advertising, customers support and servicing as well as brand building.

Subsequently, Dholakia and Kshetri (2004) pointed out that use of the Internet for providing product and price information to customers, to sell products to customers, to respond to customer inquiries about availability and shipping implies that the Internet is used as marketing media - for purposes of communication, distribution, and customer support.

Another study by Sulaiman (2000) in the Malaysian context suggested that e-commerce applications could be categorized as electronic marketing, electronic advertising, customer support services, ordering and delivery and online payment. Based on the above studies, the usage of e-commerce could be summarized as:

- (a) Marketing communication such as using email and websites to advertise products and services as well as other information
- (b) Online transactions which include order processing and fulfillment as well as payment facilitation
- (c) Relationship management which includes customer support and service such as providing web-based FAQ and auto-feedback
- (d) Supply chain management such as online procurement, which includes the use of EDI.

2.2 Benefits realized through usage of Web-Based Marketing

Theoretical and empirical studies have provided sufficient evidence that there were plenty of benefits for using of Web-Based Marketing.

According to Intel Corporation, six benefits are attributed to E-business. The final goal is to gain competitive advantage over those who lag. As the use of E-business technologies grows within the company and between the companies, it becomes increasingly important for businesses to deploy PCs that can run the latest multimedia and Web software. In E-business, the Web site increasingly becomes the “interface” between employees, between companies, and between companies, their suppliers, and their customers. For example, online shopping removes traditional retailing barriers. It removes geographical barriers, time barriers, information barriers, and supplier switching barriers. In general, the six benefits of moving to E-business are:

- **Better Management Information:** Allows management to deal better and faster with sales data reporting and analysis. Progress in this area may lead to more efficient production, inventory and distribution, marketing and sales, better financial planning, and more effective R&D and product development.
- **Better Integration of Suppliers and Vendors:** This action gives companies a better understanding of the business’ needs and encourages a higher level of product and service delivery. The process can be cost efficient, accelerate the interactions, and lead to a faster market response capability.

Better Channel Partnership: The benefit is enhanced by having the right products available at the right time and price, and knowing how to sell them most effectively. E-business processes allow the companies to provide faster information about product availability, changes in the product, pricing, and the company's promotional policy.

- **Lower Transaction Costs:** This reduction of costs and the efficiency factor are probably the most important benefits of the E-business. Internet-based transactions systems cost less over the long run because they reduce the need for a large organizational system. A study by Allen & Hamilton Consulting Company for a banking system found that a transaction costing 13 cents on the Internet leaped to \$1.08 if handled in a bank branch. Similarly, a study for US grocers who allow their customers to place orders from home have found that the cost of handling a transaction for \$100 worth of goods drops from \$6 for a phone or fax order to just 20 cents for an online order.

- **Better Market Understanding:** E-commerce transactions can automatically extract information about customers and their buying behavior. The customer data is captured along with the transaction, thereby creating a new mechanism for predicting market trends or targeting repeated or related sales. Loyal customers can receive loyalty discounts.

- **Expanded Geographical Coverage:** E-business can be accessed from any place, at any time. Thus, it eliminates barrier. It allows businesses to sell and deliver products and services across the