

**COMPETITIVE INTELLIGENCE FOR BUSINESS: A
STUDY ON FACEBOOK AS A MARKETING
STRATEGY**

BALQIS FATANAH MD MUSADEK

**DISSERTATION SUBMITTED IN FULFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE**

DEPARTMENT OF SCIENCE AND TECHNOLOGY STUDIES

FACULTY OF SCIENCE

**UNIVERSITY OF MALAYA
KUALA LUMPUR**

2017

UNIVERSITY OF MALAYA
ORIGINAL LITERARY WORK DECLARATION

Name of Candidate: BALQIS FATANAH MD MUSADEK

Registration/Matric No: SGQ 110001

Name of Degree: Master of Science

Title of Project Paper/Research Report/Dissertation/Thesis: Competitive Intelligence for Business: A Study On Facebook as a Marketing Strategy

Field of Study: Business and Information System Studies

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ABSTRACT

During the early stage of business processes, the *Competitive Intelligence* (CI) (Sazrinee, et al., 2014) process of a particular competitor was acquired manually from trade journals and periodicals, which are both intensive resource and time consuming. However, in the current era, with the exponential growth of technologies, businesses can easily obtain consumers information via the World Wide Web. The current food and beverage companies in Malaysia are currently utilising the Internet as a source of information for Competitive Intelligence. However the use of *Facebook* is limited for promoting product and services. The objectives of this research are to investigate the adoption of *Facebook* usage on the Internet by food and beverage companies in Malaysia as a source of information for CI that is used for marketing strategy; as well as to investigate the utilisation of *Facebook* as a marketing strategy by five food and beverage companies in Malaysia as a source of information for CI. Methodologies that have been used for internet adoption are from Walczuch et.al. (2000) study and Facebook as International eMarketing Strategy of Taiwan Hotels (Hsu, 2012). A survey on the Internet adoption in Malaysian food and beverages services sector was conducted as part of the study and results show Internet adoption is significant to perceived benefits, ways of using the Internet, attitude towards the Internet and concern regarding Internet access. The results from the study on Internet adoption also show that the food and beverage companies in Malaysia has still limited usage of Facebook to promote product or services and used for marketing strategies. The results from the second objective shows that the Malaysian food and beverages companies have the capability to improve their business performance via the use of Social Network Sites (SNS) such as *Facebook*, in order to disseminate marketing campaigns and gain information on its competitors. Hence, businesses can directly gain leverage from *Facebook* as a platform for sourcing

information related to the CI process, and therefore can successfully design an effective marketing strategy for food and beverage companies.

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ABSTRAK

Di peringkat permulaan sesuatu perniagaan *Competitive Intelligence* (CI) (Sazrinee, et al., 2014) dikumpul oleh pesaing secara manual dari jurnal perdagangan dan majalah berkala yang merupakan sumber yang intensif dan memakan masa. Walau bagaimanapun, dengan pertumbuhan teknologi yang pesat pada zaman sekarang, sesuatu perniagaan boleh mengumpul maklumat pengguna dengan mudah menerusi Jaringan Sejagat. Syarikat-syarikat makanan dan minuman di Malaysia kini menggunakan Internet sebagai sumber maklumat untuk proses CI, namun, penggunaan *Facebook* adalah terhad untuk mempromosikan keluaran dan perkhidmatan. Objektif penyelidikan ini adalah untuk menyiasat penggunaan *Facebook* di Internet secara umum oleh syarikat makanan dan minuman di Malaysia sebagai sumber maklumat CI yang digunakan dalam strategi pemasaran, serta untuk menyiasat penggunaan *Facebook* secara khusus sebagai strategi pemasaran oleh lima syarikat makanan dan minuman di Malaysia sebagai sumber maklumat CI. Kaedah yang digunakan untuk penerimaan Internet diambil daripada kajian Walczuch et al., (2000), manakala *Facebook* pula diambil sebagai strategi e-pemasaran antarabangsa oleh hotel-hotel di Taiwan (Hsu, 2012). Sebahagian daripada kajian ini melibatkan kaji selidik mengenai penerimaan Internet dalam sektor perkhidmatan makanan dan minuman di Malaysia dan keputusan kajian menunjukkan bahawa penerimaan Internet adalah penting untuk tanggapan faedah, kepelbagaian cara menggunakan Internet, sikap pengguna terhadap Internet, dan kebimbangan terhadap capaian Internet. Keputusan kajian mengenai penerimaan Internet juga menunjukkan bahawa syarikat makanan dan minuman di Malaysia masih kurang menggunakan *Facebook* untuk mempromosi keluaran atau perkhidmatan mereka dan sebagai strategi pemasaran. Keputusan daripada objektif kedua pula menunjukkan bahawa syarikat makanan dan minuman Malaysia berupaya untuk meningkatkan prestasi perniagaan

mereka melalui penggunaan Laman Rangkaian Sosial seperti *Facebook* untuk mengembangkan kempen pemasaran dan mendapatkan maklumat mengenai pesaing mereka. Oleh itu, perniagaan-perniagaan ini boleh memperoleh pengaruh daripada *Facebook* sebagai platform mengumpul maklumat yang meliputi proses CI dan dengan itu, dapat merancang strategi pemasaran makanan dan minuman yang berkesan.

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ACKNOWLEDGEMENTS

First and foremost, I would like to express my sincere gratitude to my principal supervisor Associate Professor Dr. Che Wan Jasimah Bt Wan Mohamed Radzi, who had thoroughly supported and educated me throughout the journey of my postgraduate degree, which successfully resulted in the production of this thesis. It is important to state that this thesis would not have become a reality without her continuous encouragement and effort.

Next, I would like to thank my assistants Dzafarin, Faezah, Hazriq, Melissa and Dr Thavamaran where all of them have assisted me by reviewing this thesis and restructured it for perfection. Apart from that, I owe my deepest gratitude to my uncle, Masri Anuar, for his willingness in collecting the data and concurrently assisted me on the data entry phase of the HalFest 2012 exhibition.

I share the credit of this fruitful thesis with my mom, whom helped me by providing invaluable inputs and mentored me throughout the process of the thesis production. Without her help and support, it would have been impossible for me to complete the thesis.

In the course of my thesis, I was blessed with friendly and cheerful group of postgraduate students from the Science and Technology Department of University of Malaya. Without the fun spirit of my colleagues, my tasks would have been monotonous.

Professor Kamaruzzaman, Dr Maryam Nadzri, Dr Haruna Chiroma, Dr Suraya Ibrahim, Dr Wahida and Dr Nadeer Alee Ibrahim had also provided me with invaluable advices and insights, which undoubtedly enhanced skills during the course of this study. Finally, I would like to thank all my friends, family members, and to those that supported

me throughout my postgraduate study. May Allah gives his blessings to all the pretty souls that motivated and supported me.

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LIST OF SYMBOLS AND ABBREVIATIONS

API	Application Programming Interface
CI	Competitive Intelligence
CIP	Competitive Intelligence Program
PSA	Public Service Announcement
SNS	Social Network Site
SSM	Companies Commission of Malaysia
US	United States

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CHAPTER 1: RESEARCH OVERVIEW

1.1 Introduction

In the current era, the Internet domain is considered a useful and important platform to collect and disseminate information, as well as a communication medium for corporate companies. The Internet has the capability to allow information to flow freely, generate interactions, facilitate business transaction, and allow integration between multiple parties to establish a relationship (Overby & Min, 2001). Through Internet based processes, various types of data are generated and can be utilised to perform Competitive Intelligence (CI) (Sazrinee et al., 2014). The benefits of utilising the online data to perform CI are twofold, namely to develop dynamic marketing solutions and aid in other strategic moves (Köseoglu et al., 2016). Studies have also shown that companies need to monitor and analyse not only customer-generated content on their own social media sites, but also textual information in order to increase competitive advantage (He et al., 2013).

Among the many available social networking sites on the Internet, Facebook has become a popular tool as a source of information catered according to a customer's requirements (Asgar, 2015). Apart from the customer required information, Facebook also provides the information of competitors within the same industry. This scenario enables a business to compete and understand a competitor's products and services, thus consequently allows information sharing among all parties.

It is now clear that connectivity for business has endless possibilities through social media platform, as described by Tarraf (2005), where the adoption of CI allows a business owner to be aware of the competitive environment and acquire the ability to differentiate own products and services from competitors within the same industry. This is further stressed by du Toit and Sewdass (2014), that if Malaysia wants to be positioned as a

global player, it is crucial that Malaysian companies monitor the global events and trends to enable the development of CI.

The direct impact from Internet to business will be further explored in the next section.

1.2 Impact of the Internet to business

Businesses gain benefits from the Internet, especially when companies allow customers or consumers to purchase the products or services that are being offered by using the Internet as a platform. Utilising the Internet via interfaces such as Microsoft Explorer, Google Chrome or Safari allows for information to spread easily and cost effectively (Adikesavan, 2014). The purchasing process over the Internet can be performed via a secured bank transaction without the requirement of physically visiting an outlet. Apart from straightforward purchasing process, the Internet platform also help companies to communicate efficiently with customers (Millstein et al. 2014), provide opportunity for mass scale advertising without boundaries, and enable the shipping of tangible products to customers at the chosen locations (Curran et al. 2011).

Since most companies in the current era utilise the Internet as a common platform, it is important for companies to collect a competitor's information and analyse the activities and marketing strategy. Based on the collected information, companies can acquire the knowledge related to a competitor's strength to develop its own marketing strategy. According to Tarraf (2005), the collected data of a competitor from the Internet platform, can be analysed via the CI method, whereby, the outcome will provide the business to be a step ahead of the competitor. Based on certain literatures by (Kim, et al., 2016), it was found that the required parameters for CI to appropriately plan for a marketing strategy, based on the data collected from Facebook, had not been explored. Therefore, Facebook

as a particular platform of interest in the present art, will be further discussed in the upcoming section.

Facebook is one of the many available social networking sites, where it was founded in 2004 as an online photo ID website for Harvard students by Mark Zuckerberg (Vakali & Jain, 2011). Since then, the site has enjoyed a massive growth and developed itself into one of the most prominent online companies that worth hundreds of millions of dollars and emerged as a top ten most traffic generating site (Reid, 2009). According to Facebook's latest statistics, in average, there were about 829 million daily active users as of June 2014. From the total users, 654 million users belonged to the mobile group alone and 1.32 billion monthly active users as of June 30, 2014 and 1.07 billion Mobile monthly active users as of June 30, 2014. Approximately 81.7% of their daily active users are outside the US and Canada (Facebook, 2012).

From the users' perspective, Facebook provides an easy-to-use and interactive social platform. It also provides the capability for the user to update information in real time (dynamic information) as compared to traditional websites which mainly has static information. Furthermore, Facebook has evolved into a portal with the launching of the Facebook API, which allows the options of adding many features to the domain (Breeding, 2006), as well as the additions of built-in instant messaging system, internal email system, and the Facebook Inbox.

According to the social scientists, Facebook represents a novel opportunity to observe behavior and interactions in a naturalistic setting, provides a platform to gather data from all over the world, as well as the opportunity to experiment the scientists' hypothesis in a richly unique domain (Wilson et al., 2012).

From a business perspective, Facebook provides the opportunity for businesses to advertise their related brands and concurrently share information of their offered services and products. Apart from that, all types of businesses may use the Facebook as a platform to disseminate information and collect strategic information of the competing businesses within the same industry, which will be further discussed in the next section.

In the past few decades, there is an increasing shift from the traditional marketing strategy of increasing market share to relationship management. Such a shift in marketing paradigm was due to the belief that the improvement in the corporate success rate is achieved by increasing the profit margin contributed by the existing customers, and at the same time ensured that the customers have an extensive relationship with the firm (Bauer et al., 2002). Furthermore, Hsieh, Chiu, and Chiang (2005) believed that emphasising on relationship based marketing helped to build and maintain a committed and loyal relationship between customers and organisations. A new marketing transformation was experienced by businesses, where the move is now towards online marketing (Shankar & Batra, 2009). The transformation is viable because web-based communication has gradually replaced the traditional face-to-face communication. Although some marketers are still expressing doubt towards the viability of the social media based marketing and are still experimenting on its effectiveness (Shankar & Batra, 2009), the general trend in marketing shifted the focus from the traditional marketing methods to social media platform, such as the Facebook (Din & Haron, 2012).

Thus, Dekay (2012) reported that the use of social network sites, such as the Facebook, provides an opportunity for businesses to engage in real-time conversation with customers. Furthermore, these conversations will be witnessed by millions of current and potential customers all over the world. Therefore, the communication with the consumer base, as well as the sales pitch of new products, all can be carried out in a more subtle

manner than that of print media, consequently allowing for a viral and consumer-driven marketing effort (Hutchings, 2012). Despite the fact that social media is widely used for marketing, CI is not integrated with social media, and a discussion pertaining to this issue will be carried out in following section in the form of problem statement.

1.3 Problem Statement

With the explosion of Social Networking Sites (SNS) found on the Internet, many companies have jumped into the Internet as a medium to increase their market presence. In Malaysia, the government's Vision 2020 promotes the use of the Internet for e-commerce as well as to connect to global economies (Che Mohd Zulkifli & Anas, 2014). In relation to the food and beverage industry in Malaysia, the companies may have some knowledge of the importance and use of the Internet. However, these food and beverage companies may not be able to weather an economic crisis if they lag in the use of the Internet (Abdul Manaf et al., 2013).

Currently, there are limited Facebook studies on the use of Facebook application, marketing strategy by food and beverage companies for improving their market share. There is also lack of studies regarding the application of Facebook towards improving marketing strategies in food and beverage companies in Malaysia. Companies often overlook the significance of adopting CI to gain competitive advantage in a dynamically evolving market. A CI analysis provides information on a competitor's situation, potential changes in the demand of similar products, and comparative analysis of the business process. These are all the key inputs required for a corporate firm to reassess their marketing strategy. This study attempts to examine the application of Facebook by using the Internet adoption theories in food and beverage companies as well as how major food and beverage companies have improved their revenue through CI.

1.4 Research Objectives

The specific objectives of the research are:

1. To investigate the adoption of the Internet for Facebook usage by food and beverage companies in Malaysia as a source of information for CI that is used for marketing strategy.
2. To investigate the usage of Facebook by five food and beverage companies in Malaysia as a source of information for CI that is used for marketing strategy.

In an overall perspective, this research will synthesise the significance of CI, and this information will hopefully provide insight into the need to implement CI analysis for improving the marketing strategy in companies within the food and beverage industry.

1.5 Research Questions

Based on the problem statement, the following Research Questions are formulated as part of the research.

- a. Is the current food and beverage companies in Malaysia currently utilising the Facebook as a source of information for CI?
- b. Can the Facebook application and its features be used as a source of information for CI?

1.6 Scope of the Research Study

The Research study is developed in two stages:

- i. Survey on the adoption of the Internet by food and beverage companies in Malaysia.

- ii. Case study on the usage of a Social Network Site (Facebook) by five food and beverage companies in Malaysia.

A survey form was distributed at Malaysia's Halal Festival (HalFest) conference to determine the usage of the Internet in the food and beverage companies in Malaysia. This survey provides an input towards the level of Internet adoption in Malaysian food and beverage companies.

The case study on five food and beverage companies is used to confirm that the data from Facebook can be used as an input for CI information gathering for marketing strategy. The food and beverage companies are Pizza Hut Malaysia, Big Apple Donuts & Coffee, Baskin-Robbins Malaysia, Starbucks Malaysia, and Secret Recipe, where these companies represent a mixture of the types of food and beverage companies in Malaysia.

The data collected in the second case study investigates if the usage of Facebook to gather information about competitors in the same industry helps the five fast food and beverage companies. Although Facebook is used by the five food and beverage companies, the investigation finds that the level of Facebook usage is not commonly applied. The popularity of using Facebook to market their product or services, is however, commonly used by the five food and beverage companies.

The findings are determined by using the quantitative analysis and literature review analysis mixed method that derives a conclusion from the data collected. The method integrates the objectives of the research between the level of Internet adoption with Facebook usage and information gathered from different competitors in food and beverage companies to derive a conclusion.

1.7 Research Methods

The research methods will be based on Literature Reviews, Survey and Case Study.

1.7.1 Literature Reviews

Literature Reviews on CI and the adoption methodology have been conducted. The literatures include the reviews on the usage of CI in businesses, impact towards an organisation, the societal change due to the adoption of social networking applications, and business opportunities that arise from the adoption of social network, specifically Facebook. Based on the reviews, future works and existing gaps can be identified and will be used as a basis to present the research work.

1.7.2 Survey

As part of the investigation process, a survey is used as a research approach to collect data related to Internet adoption and Facebook usage from the food and beverage companies during the HalFest Exhibition. The data collected from Exhibition held between the 10th and 14th of October 2012, is used to determine the level of Internet adoption by those companies.

1.7.3 Case Study on Five Food and Beverage Companies

Initially, the intention was to research the usage of Facebook by the food and beverage companies that participated in the survey. However, the responding companies did not have any online presence that could be used for the case study on Facebook.

Therefore, five popular food and beverage companies were chosen due to their Facebook presence. These five (5) food and beverage companies consist of both international and local brands. The local companies are Secret Recipe and Big Apple Donuts & Coffee, while the international franchisees are Starbucks, Baskin Robbins, and Pizza Hut.

The principle reason for choosing these particular brands for the research case study is due to the established image as well as to provide a mix of company type to represent the food and beverage companies in Malaysia.

1.8 Significance of the Research Study

The companies need to use as many platforms as possible to improve their market presence. These platforms can be expensive, depending on the type of medium used. For example, advertising on a billboard may incur a large amount of money. A simple but effective way to improve presence, is by using the Internet as a marketing strategy to promote the business. In a research done by Erdoğan and Cicek (2012) on social media marketing, it is important to maintain the customers loyalty and results from the previous study shows, customers prefer to share contents from marketers as a tactic to customer's attention. It is also important to know that from the social media aspects, a company must try to fit and accommodate national differences for global marketing strategy (Berthon et al., 2012). The impact of social media on the sales of Old Spice increased to 55 % in year 2010 from April to June after the creation of a huge fan page from Facebook (Kozara & Muecke, 2010).

The research will show from the survey, that the food and beverage companies already subscribes to the importance of the Internet and its perceived benefits. From the research, the resulting outcome supports the use of a SNS, such as Facebook, as an effective marketing and CI information gathering site for marketing strategy.

This research will also show significance as it researches the food and beverage companies' usage of the Internet for improving its market presence. From the case study on how existing food and beverage companies that have adopted Facebook, the research will show that Facebook is a source for CI information gathering for marketing strategy.

Up to date information about competitors allows the business to counter and move ahead. CI personnel and competitors could also consider SNS competitive intelligence to anticipate competitors' movement, improve their capability better than their competitors and remain competitive. According to (Hansson et al., 2013), Facebook is used for companies as a way of marketing their product or service. As a result, competitive intelligence gathering information using Facebook could ensure the improvement of business and significantly gives impact to the knowledge economy.

From a practical standpoint, the results of this thesis will signify the importance of utilising Facebook for the CI process and for marketing strategy purposes.

1.9 Research Framework

A proposed Research Framework (**Figure 1.1**) is developed to guide the researcher in this study.

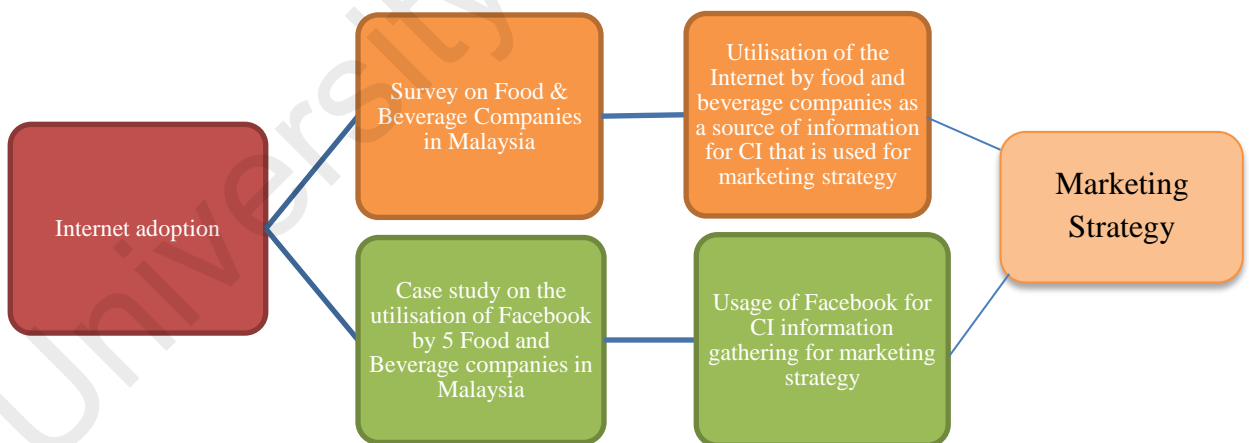


Figure 1.1: Research Framework

The research framework begins with the investigation of the Internet adoption by conducting a survey on Malaysian food and beverage companies to determine if the companies are using the Internet as a source of information for CI that is used for marketing strategy. A further examination into the use of Facebook is then conducted via

a case study on five food and beverage companies in Malaysia to identify if there are application and features in Facebook that could be used for CI marketing strategy to increase revenue. This investigation is to determine that information gathered from Facebook can be used as an input to the company's marketing strategy.

The following chapter researches the use of Internet as a Superhighway of Information, academic works on competitive intelligence, Social Network Sites for gathering information and gaps in the current literatures.

University of Malaya

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter highlights the existing literatures that are available particularly on the use of Internet and Social Network Sites for disseminating and gathering information for Competitive Intelligence. Based on the literatures, the knowledge gaps will be synthesised on the data gathering activities as part of the CI process. Thereafter, the present study will fill these gaps and complement the previous studies that had been published. A particular attention is given to the data gathering because this process is important for collecting the business information of business competitors within the CI process. Since data gathering for CI is based on primary and secondary sources, which includes conducting surveys and researching periodicals and trade magazines, it is deemed to be a laborious exercise. Hence, this chapter will only focus on data gathering for CI via the Internet.

Conventionally, businesses compete to offer similar products and services against competitors, whilst the targeted customers are usually from the same pool. Therefore, a robust information analysis on the offered products and services is required, which can be seamlessly obtained with the advent of the Internet. From the analysis, a CI report can be easily derived, which will provide extensive information on marketing strategy for products and services offered. In this context, marketing strategy is the key element to carefully position the portfolios in the market, which will enable businesses to be a step ahead of the competitors and remain sustainable and competitive.

To successfully enable a solid marketing strategy for an organisation, this study will attempt to bridge the gap between the use of social media applications and CI information-gathering. The current contribution to CI is important because there are limited literature

available on this particular subject. Thus, this thesis will act as an initial contribution on the integration between CI and SNS.

2.2 Internet as the Superhighway

The Internet is a global system of interconnection between several networks that spans across the world and use transport protocols to carry extensive information. In other words, the analogy of the Internet can be described as the highway, while the buses are the information that carried information to the predetermined destinations (Besser, 1995). Due to the massive linkages between the complex networks, information resources and services are easily available for interlinking hypertext documents, applications of the World Wide Web, the email infrastructure such as Gmail, and the social media such as the Facebook.

Currently, the Internet offers numerous advantages, particularly for collaboration and identity building across a dispersed community (Hamidi & Safabakhsh, 2011). Usually, several entities are involved in a business, namely the suppliers, distributors, and business partners, where all can have a direct communication link between one and another with the use of the Internet (Hamill et al., 1997). With this easy interconnection, it levels the playing field between the small businesses and bigger firms as more opportunities emerged to establish a business in the global market (Al-Hawari et al., 2008). Furthermore, the Internet also had superseded newspapers, books, and encyclopedias as the primary sources of information search. As a result, the Internet has become an important portal for knowledge sharing and social connectivity among people who are located miles apart (Mehrtens et al., 2001). Notwithstanding to all the features offered by the Internet, Hamill (1997) also pointed out on how companies used the Internet as an

“ear to the ground” to gather feedback on the market trends and developments, as well as new ideas for research and development (R&D) for the offered products.

Most importantly, the Internet growth across the industries and the nations contributed positively to the cost of products and services delivered. Hence, the Internet seamlessly integrated the buyers and the sellers in a same platform, which was impossible by traditional methods (Ainscough, 1996). Since the Internet brought buyers and sellers together in a single platform, market positioning and marketing strategy of a product has never been easier with the global audience being a click away (Hura, 1998). As a result of this emergence, the rise of the e-commerce was observed all over the world (Rao, 2000). By exploiting the e-commerce platform, the Internet-savvy firms presented information of the offered products in a more interesting and interactive approach than the conventional methods, which included texts, pictures, diagrams, animations, video, and audio clips that are available online at all times (Al-Hawari et al., 2008).

On the other hand, Khatibi et al. (2003) described the market environment to be a “hypermedia computer-mediated”, where the buyer and seller will interact in real-time. According to Ozer (2005), businesses may not be confident in launching the Internet initiatives owing to the highly dynamic and uncertain nature of the Internet marketplace. However, Herbig and Hale (1997) had predicted that both online and offline shopping will grow in stature over time due to the distinctive benefits arising from Small-Medium Enterprises with Internet as a platform (SMEECorps, 2013).

2.2.1 Internet for Businesses

Companies with access to the Internet can gain astronomically in terms of both economic and social returns, simply because the Internet allows the businesses to pool

the customers together (Peng, 2012). Similar to large corporations, by having the Internet, information is relayed between vital business partners (suppliers and distributors) in a consistent, immediate, and extensive prospects (Manecke & Schoensleben, 2004; Siu, 2002). Apart from customer base and collaborative support, the Internet also supports the management of businesses, whereby decision-making processes and business operations became flexible due to online communications (Mutula, 2002).

From the social aspect, Internet adoption provides a financially sustainable prospect, which improves the engagement with customers. As a result, businesses could easily identify and interact with the respective market segments as well as the competitors' by using email (Ivanov, 2012), and thus enabled the gathering of in-depth feedbacks of the offered products (Hamill et al., 1997; Harris & Rae, 2010; Sawhney et al., 2005).

Apart from benefiting businesses, Internet adoption also benefited the consumers, where Internet banking being one of the prime example, contributed positively to consumers' day-to-day lives (Alam, 2009). Another benefit to consumers was the application of e-distribution channel, particularly for online ticketing and reservation services, as well as the sale of digital products (Kiang et al., 2000).

Due to the rise in the untapped business opportunities and the broken down of conventional economic boundaries, businesses were forced to adopt business models that closely relied on the use of the Internet. This was important as the Internet is a tool for doing business, particularly in SNS, which enabled a complete control of the business with strategic development (Angelides, 1997). Nowadays, high speed Internet provide the opportunity for companies to collect data whenever followers browse social media websites such as Facebook (Vermaat et al., 2015).

In this current era, the Internet is widely used by the food and beverage industry to promote their product and services. Information is disseminated using blogs, websites and social networks to the customers. In Malaysia, citizens utilise the Internet, especially Facebook, to promote their product and services from different sectors such as the manufacturing and food and beverage industry.

The halal food industry is important in the Malaysian market and the economic growth of the country (Abdul Manaf et al., 2013). One of the success factors of building networks for halal products from Peninsular Malaysia to be in the global market, is Information Technology (Nor Aini, 2013). The previous study shows that the contribution of Internet gives a big impact to the food and beverage industry in Malaysia in providing awareness to the customers via online marketing.

2.2.2 Social Network Sites as a Source of Information

By adopting SNSs as a business platform, the strategies varied on how to communicate with consumers and to attract the required audiences. Furthermore, SNSs provides a more interactive method to perform advertisement and marketing (Jothi, Neelamalar, & Prasad, 2011) . Besides, SNSs were also used to share information with both general public and mass media news, where the outcome could be either positive or negative (Kim et al., 2015; Thelwall, 2008) . A study from an online apparel brand showed that SNSs provided active and enjoyable interactions among the community members with unique/creative communication methods, fun experiences, and diverse off-line events for apparel shopping (Park & Cho, 2012). Ultimately, the platforms provided a window for business development, marketing, information sharing, free opinions, and access to information related to real-time issues or news.

One of the SNSs that significantly contributed to businesses was Facebook, which started as a platform to connect with friends, which eventually evolved into one of the biggest marketing platform with the largest network base. By using Facebook, users can now update profiles, status, occupation, studies, political views, upload and share pictures, share links to articles and other websites amongst friends, and even the public at large. Such platform created an opportunity for Facebook users and companies to disseminate information to the public with excellent reachability.

Since the launch of Facebook, more individuals and companies alike have entered the social network arena. Users of Facebook can click the “like” option in a page or group owned by a company or an individual, which will allow the users to be “followers” and will receive live news feeds related to that company or individual. Apart from new feeds, the followers can comment on news feeds or leave a message on the company’s “wall” within the page.

Some of the other notable features in Facebook are uploading new contents instantaneously, post links, videos, pictures, fan pages, groups and even advertisements (Curran et al., 2011). Facebook had also introduced the interactive Banner, which is available on the landing page of Facebook, and allowed companies to promote products with a hyperlink to the appropriate information pages within Facebook (Curran et al., 2011).

In terms of marketing tool, there are four salient features provided by Facebook. The use case of these 4 features is adopted from a study on the hospitality industry in Taiwan. The 4 features as mentioned by (Hsu, 2012), are quality and volume of content, inbound

communication, outbound communication, and language used. This is depicted in **Table 2.1**.

2.2.3 Quality and volume of content

One of the four marketing features of Facebook is quality and volume of content. The information provided must be informative that includes the history of the organisation, mission statements, and link to the company's website, thus making the Facebook a one stop-shop for information. This should include the products and services that are being offered, thus ensuring users to be familiar with the type of offerings by the business.

2.2.4 Inbound communication

The second feature is the inbound communication. For example, in a hotel business page, the on line positive feedback/testimonial and the "likes" received from the previous customers had motivated new customers to stay at the same hotel (Hsu, 2012). Apart from that, the video and photo uploaded in the Facebook and shared by the customers had achieved viral marketing, which will aid potential clients towards a quick decision.

2.2.5 Outbound communication

The third feature is the outbound communication, which can be carried out via constant communication through publishing wall posts, announcements, photos, and videos of the recent happenings. Relating this feature to a hotel business, the wall posts were posted in the local language, which included the news updates of people, events, celebration, and various topics on improvements within the hotel. Such outbound news described the hotel in terms of what it was doing for consumers, industry, and the contribution to the local community.

Table 2.1: Facebook Marketing Features (Source Hsu, 2012)

Facebook use of Taiwan hotels.

Taiwan hotels	Evergreen Laurel Hotel Taipei	Evergreen Laurel Hotel Taichung	The Splendor Hotel Kaohsiung	The Splendor Hotel Taichung	Agora Garden Taipei	The Westin Taipei
Facebook account creation	24 April 2010	16 April 2010	10 August 2009	05 July 2010	16 March 2010	18 December 2009
Features used	Fan page, profile information, events, beacons and polls, hotel façade as profile picture	Fan page, profile information, events, beacons and polls, hotel façade as profile picture	Fan page, profile information, events, beacons and polls, logo as profile picture	Fan page, profile information, events, beacons and polls, hotel façade as profile picture	Fan page, profile information, events, beacons and polls, hotel façade as profile picture	Fan page, profile information, events, beacons and polls, hotel façade as profile picture
Outbound content	Location, contact numbers, website link, overview of the company, mission and products	Location, contact numbers, and website link, parking options and directions	Location, contact numbers, and website link, parking options and directions	Location, contact numbers, and website link	Location, contact numbers, and website link, overview of the company, mission, and products	Location, contact numbers, and website link, overview of the company, mission, and products
Inbound content	Wall posts and comments, photos and notes	Wall posts and comments, photos and notes	Wall posts and comments, photos and notes	Wall posts and comments, photos and notes, promotions	Wall posts and comments, photos and notes, videos	Wall posts and comments, photos and notes
Aesthetics	Template colors	Template colors	Vibrant colors	Vibrant colors	Template colors	Vibrant colors
Frequency of posts/month	More than 15 posts	More than 15 posts	More than 15 posts	More than 15 posts	3 posts	5 posts
Interaction	Short interactions between the hotel and fans as well as among fans, comments in Chinese	Short interactions between the hotel and fans as well as among fans, comments in Chinese	Short interactions among fans, comments in Chinese	Short interactions between the hotel and fans as well as among fans, comments in Chinese	Short interactions between the hotel and fans with some unanswered questions related to marketing, comments in Chinese	No substantial interaction, comments in Chinese
Language use	Chinese	Chinese	Chinese	Chinese	Chinese	Chinese

2.2.6 Language use in Facebook

The fourth feature is the language used in Facebook for marketing. For example, the use of English to communicate and interact with international customers would likely lead to a wider international network, consequently increasing the potential customers.

2.2.7 Barriers of the Internet Adoption

According to the research conducted by Kapurubandara and Lawson (2006), several barriers have been highlighted that actually deterred companies from adopting Internet for business strategy. The barriers included both external and internal factors.

The primary barrier that arises from outside of the business is the financial demands of businesses to enable the adoption of Internet into their daily operations (Hadjimanolis, 1999; Harrison & Waite, 2006; Kapurubandara & Lawson, 2006). Furthermore, companies also need to work within the limitations of the available telecommunications infrastructure, which may not be sufficient to support companies that heavily required Internet access (Aladwani, 2003; Thao & Swierczek, 2008).

In certain cases, the managers have concerns that the use of Internet may not necessarily lead to higher efficiency or lower operating costs as stated by (Walczuch et al., 2000), simply because there were evidences that employee productivity was disrupted (Yellowlees & Marks, 2007). Alternatively, companies may also face the problem of having staffs that are not accustomed to IT peripherals and facilities, as a result may require extra training, which will incur additional costs to the company (Yellowlees & Marks, 2007). **Table 2.2** identifies the complete benefits and barriers of the Internet.

Table 2.2: Benefits and Barriers of the Internet (Walczuch et al., 2000)

Internet Benefits	Internet Barriers	Authors
Business Awareness	<ul style="list-style-type: none"> • Costs (start-up costs) 	(Purao & Campbell, 1998)
Infrastructure	<ul style="list-style-type: none"> • Unfamiliarity with the Internet • Lack of guidance about how to start the process 	(Purao & Campbell, 1998)
Critical mass among business partners	<ul style="list-style-type: none"> • Suppliers or customers are not on-line 	(Abell & Lim, 1996)
Confidence in legal and regulatory	<ul style="list-style-type: none"> • Security hazards 	(Purao & Campbell, 1998)
Framework/security	<ul style="list-style-type: none"> • Guarantee of message delivery • Tampering with network messages • Unauthorised access to internal networks • Interception of network messages • Verification of authorship of messages • Enforceability of contracts negotiated over the network 	(Abell & Lim, 1996)
Product promotion	<ul style="list-style-type: none"> • Direct and indirect advertising 	(Poon & Strom, 1997)
New sales channel	<ul style="list-style-type: none"> • Easy access to potential customers • On-line sales and transactions • Ability to reach out to international markets • Increase in market share of products/services 	(Poon & Strom, 1997)
Direct savings	<ul style="list-style-type: none"> • Low cost communication • Savings in communication costs • Savings in advertising costs • Increased productivity • Lower cost margins for products/services • Lower cost of obtaining supplies 	(Poon & Strom, 1997)
Time to market	<ul style="list-style-type: none"> • Product delivery 	(Poon & Strom, 1997)
Customer service	<ul style="list-style-type: none"> • Greater customer satisfaction 	(Abell & Lim, 1996)
Brand image	<ul style="list-style-type: none"> • Company image enhancement • Create an up-to-date corporate image 	(Poon & Strom, 1997)
Technological and organisational learning	<ul style="list-style-type: none"> • Obtain know-how through discussion with others on the Internet 	(Poon & Strom, 1997)
Customer relations	<ul style="list-style-type: none"> • Form and extend business networks 	(Poon & Strom, 1997)
New business models	<ul style="list-style-type: none"> • Competitor's performance benchmarking • Create new business opportunities • Speedy and timely access to information from Websites • Communication efficiency improvement • Effectiveness in information gathering • Availability of expertise regardless of location • Better service and support from suppliers 	(Poon & Strom, 1997)

2.2.8 Concerns surrounding the use of Internet

In the push for the adoption of the Internet and the growth of e-commerce, issues related to a company's online security and privacy of data were being raised, adding to business managers' worries on the feasibility of the adoption (Lallmahamood, 2007). Although the Internet usage is beneficial, Kim, Jeong, Kim, and So (2011) had pointed out that unethical use of Internet, including spam, virus, online frauds, identity thefts, hacking, and many other harmful and illegal acts negatively affected the employees. For example, in Internet Banking, which represents the crux of e-commerce, certain important mechanisms should be put in place to obtain the certificate of trust and security, which ensures a validated and secured user transactions (Ainscough, 1996; Tsiakis & Sthephanides, 2005). Such requirements are directly from governmental support and regulations (Alam, 2009).

Apart from negative impact and Internet security, small business managers were trying to avoid the Internet as a business platform due to unfamiliarity with the technology (van Akkeren & Cavaye, 1999). From the employees' perspective, Angelides (1997) reported that distraction occurred due to the real-time interactions with the customers on a round-the-clock basis. Furthermore, Internet can also be a personal distraction to employees that affect their work productivity. Therefore, companies need to have suitable training programmes specifically optimised to solve the aforementioned shortcomings during the adoption process of the Internet for company usage. Palumbo and Herbig (1998) also warned against additional complications by adopting Internet for business. Firstly is the common pricing that the companies have to adhere to in comparison to the competitors, because the products were made available internationally over the Internet.

Secondly, companies may face issues from cultural differences, governmental censorships, and intellectual property infringements.

According to Zaraté (2012), the challenge facing the Internet now is developing a tool that can sort out information efficiently.

Ndubisi and Nwankwo (2013) identified factors that could potentially be key barriers for SMEs in Malaysia to adopt Internet-based ICT in Malaysia as ICT software are too costly, there is a lack of confidence in terms of ICT security, 'unavailability' of network infrastructure and it is not suitable for business. On the flipside, the Internet provided a communication medium with customers and led to cost reduction of business correspondence costs.

2.3 Academic Works on Competitive Intelligence

Once the Internet is adopted as a business platform for strategic reasons, there are many different tools within the Internet that can be used to bring a business to the next level, where CI is one of such tools. In order to understand the principal of CI, it is necessary to first understand its definition from the viewpoints of literatures. Egan (2001) and Ding (2009) defined CI as the process of gathering, analysing, and applying information regarding products, domain constituents, customers, and competitors during the development of short term and long term plans of an organisation. On the other hand CI is a system suitable for environmental scanning, which integrated the knowledge of all employees' in a company (Calof & Wright, 2008). However, Chu (1999) believed that CI is the information of a competitor's activities, which were usually available in the public domain, and can be systematically aggregated from surveys followed by distributing the information to decision makers for strategic planning.

In another study by Rouach and Santi (2001), CI was defined as an art of collecting, processing, and storing the information, where the information will be passed to employees of all levels within the company for future business planning. However, Nasri (2011) believed that the practices of eliciting, managing, and transferring of tacit information may be viewed as illegal, which was agreed by (Fine, 1995).

Despite the disagreements, all literature were in consensus on the significance of applying CI as a tool for the company's survival and as a support mechanism for management to make sound decisions to ultimately improve the business performance (Fuld, 1995).

In the age of globalisation and intense competition, Malaysian companies are facing tough economic challenges (Yap & Md Zabid, 2011). Thus, they should capitalise on formal CI function for new opportunities in response to the pressing needs of the contemporary business conditions.

2.3.1 Competitive Intelligence in Business

The origins of CI can be traced back to the applications for military intelligence through "spies" or "plant-ins" in the enemy camps or social gatherings. The spies were required to acquire the information of the enemy's strengths and weaknesses, and submit the "intelligence" report back to the military base. Based on the report, the facts were examined and a counter-plan was devised to cripple the foe. Similarly in a business, CI followed the same approach in planning a pivotal strategy for business (Ding, 2009). According to Calof and Wright (2008), there must be a dedicated unit and task force for CI implementation, where the objective is to perform the duties within the enterprise to both solicit the information and store the strategic information that were collected on

behalf of the organisation (McGonagle & Vella, 2004). In more details, the mechanisms of CI are to track and monitor the activities of direct and indirect competitors within a similar domain, where the activities are, but not limited to, business development, strategy and tactics (Rouach & Santi, 2001). Thus, it is important to distinguish CI to be different from an industrial espionage, although it was sometimes viewed as similar, because the source of the information was usually derived from the public domain, hence available to the general public (Boncella, 2003). The failure to measure the impact of competitive data leads to an interesting dilemma for companies.

The CI is viewed as an instrument by Cronin (1994) to gain an edge over competitors both domestically and internationally business venture. Competitive Intelligence activities seek to identify the industry practices, products, services and performance of the market players. The performances of the companies are compared between the company and its competitors. It is constantly assessed in order to identify the weaknesses and strengths of the company against the competitors. The performance will be further benchmarked against that of the best-in-class companies in order to determine how to achieve the desired performance level (Shetty, 1993). However, if organisational members do not want to share this knowledge and contribute this knowledge to the organisational knowledge, threats from competitors are invisible to the organisation and market opportunities are not within reach (Trong Tuan, 2013).

Based on the literatures, there seemed to be more companies embracing CI, because the entire goal of CI is to support the organisational needs in terms of acquiring data, analysing, and disseminating the processed information for external consumption (Strauss & du Toit, 2010). Practicing CI as part of the business strategy will ensure the business to be receptive and alert to any market movements, and be agile to any changes that may

impact the entity (van Brakel, 2005). It is important to study and review aspects of a business environment, including knowledge of the competitors, including the strong and weak points, new plans and products, and to measure how these items affect success or failure of the competitors. These amount of knowledge on the business landscape of competitors played a vital role in making sound business decisions (du Toit, 2003). Murphy (2006) provided a scenario where a business required sound intelligence during the setup of the product prices, which required the knowledge of the pricing of similar products from other competitors. Wee and Leow (1994) believed that it was helpful in creating and maintaining a good relationship with the internal customers, which is critical to succeed. Information plays an integral and important part in corporate management. It is considered to be one of the most powerful and promising weapons. In short, the possession of information means the possession of an advantage. The question is, if one is able to use the information effectively and thus achieve the prevalence over the rival. However, for a decision-maker the information becomes an advantage when, and only when, its importance is understood in the context of opportunities enabling a competition gain for the corporation (Bartes, 2015).

In order to carry out a successful CI process, Shetty (1993) suggested to measure the performance of a firm and benchmark the outcome against the "best-in-class" companies. Such comparison will provide the gap between the current performance and the competition out there. Thus, according to Bernhardt (1994), CI is essential for a long term survival and progress of a firm, where the following section will share some of the case studies. As an organisation's commitment to improve societal well-being through discretionary business practices and contributions of organisational resources, corporate

social responsibility can influence relationships among all stakeholders (Korschun et al., 2011).

Fan and Gordon (2014) study explained how social media analytics can be used to support competitive intelligence by assisting companies to understand their suppliers, competitors, environments, and overall business trends.

He et al. (2015) shows that social media data contain competitive intelligence by comparing consumers point of view by analysing public social media data of a business and its competitors.

2.3.2 Sample Cases of CI adopters

In a global scale, companies have conducted CI process by using many different approaches. One of the prime examples was a Japanese car manufacturer, which engaged in the art of benchmarking data in a proactive manner obtained by studying the factors that motivated customers to purchase a competitor's product (Shetty, 1993). The acquired data were then synthesised and innovatively applied to own automobile products for improvement. Similarly, Xerox collected data from public sources, consultants, personal contacts from leading firms, the insights from company employees, and surveys conducted by students of graduate business schools. These data were then used as the sources of information for CI application (Shetty, 1993). The amount of information is increased and updated. Thus, the companies need to structure, plan for competitive intelligence process which includes carefully collecting information that is relevant for the organisation for current situations (Nelke & Håkansson, 2015).

In an alternative perspective, when Border book store sales fell miserably behind Amazon.com and Barnes and Nobel, Border book store decided to go against the market

dynamics, and consequently failed in its strategy to gain the expected market share. In the face of slumping online sales and the inability of border books to drum up revenues and market share, it announced a shift in its strategy, which resulted in the openings of more bricks and mortar book shops. Again, this strategy proved to be unsuccessful due to its lack of vision and slow response to the quick dynamics introduced by the Internet. The sudden shifts in the strategic decisions of Border book store is known as a reactive and a tactical short-term move to boost revenue, rather than an actual strategic and long-term interest in having an online presence (Chu, 1999). This is where CI could have been applied to turnaround the fate of Border book store. A strategic decision is produced after collecting data sources and analysing the data sources for the purpose of competitive intelligence. The result is an ethical business discipline which is useful for competitive environment (Crump, 2015; Vriens, 2004).

From such catastrophic failures, most of the Fortune 500 companies had introduced a CI programme unit or sourced out its CI activities. Coca-Cola, 3M, Dow Chemical, General Electric and Intel maintained a dedicated staff to consistently follow up on the progress of business rivals. Therefore, the probability of CI process contributing to the success stories behind these giant companies are high (Bose, 2008). Companies that neglect the CI process may harm the organisation (Murphy, 2016).

From the literatures above, it is clear that CI practices are actually not methods that were recently adopted. The process had been around since the beginning of mankind discovered the concept of trading (Brod, 1999). More importantly, CI practices were particularly common among the senior executives, because the executives constantly evaluated the market to determine the position of the products and services that were being offered to consumers (Fleisher, 2001). The competitive intelligence practitioners

are able to put in effort when all project stakeholders are able to formulate Key Intelligence Topic, Key Intelligence Question (KIQ) and issues on the business needs (Ioia, 2014).

2.3.3 Primary and Secondary Sources for Competitive Intelligence

The previous section emphasised on the importance of CI and its relative impact. Now, in order to gain further insight of CI, the actual source of the data that feeds a CI process requires some degree of understanding. Based on the existing literatures, various sources of information were suggested for CI (Brod, 1999). For example, Bernhardt (1994) believed that two main sources of information were secondary and “open” (primary) sources. Some of the secondary sources were mainly consisted of published data, periodicals, and trade journals. In other words, these information can originate from a salesperson’s exclusive sources, including the customers, the market informants and the sales colleague, which is collectively known as a product of effective intelligence-gathering (Agnihotri & Rapp, 2011). On the other hand, open sources consisted of infinite-annual reports, government documents, directories of every descriptions, newspapers, statistics, trade journals, 'on-line' database services (Bernhardt, 1994) and observations conducted during trade shows and trade associations (Brod, 1999). Talking with people, sales person and employees are also a source of information of competitive intelligence (Miller, 2014).

Alternatively, Bernhardt (1994) reported on three different sources to obtain business information, namely (a) the competitor’s organization itself, (b) customers, and (c) agents and suppliers of both companies and the competitor's) while the collection sources could possibly include the people, objects (products or components), and records

(literature). All the information that are obtained from the sources to be further classified during the gathering stage (Aguilar, 1967).

In the case of the data gathering, the methods for each sources ultimately vary. Therefore, there is a need to be selective towards collecting data for the CI process. However, a majority of scientists had agreed that the importance of primary data sources have increased (Culnan, 1983; Keegan, 1974; Kefalas & Schoderbek, 1973). Hence, unequivocally, the present research emphasizes on data collection from primary sources, where the sources in the present context are five food and beverage companies from Facebook. Since the data source is clarified now, the next section will further explore on the data collection methodology for CI.

2.4 Data Collection via the Internet for Competitive Intelligence

There are two widely used methodologies for data collection over the Internet, namely email and web-based surveys. The email survey sends an embedded survey to the participants, followed by the participants replying to the researchers with the completed survey. For the web-based survey, the functionality is within a website, where a researcher invites the participant to visit and engage with the survey via URL links that were sent to the participants (Granello & Wheaton, 2004). Compared to the traditional methods of data collection, including phone surveys, fax, one-on-one interviews, and mail surveys, Couper (2000) argued that online surveys will ultimately replace the traditional methods of data collection. Some of the reasons for (Couper, 2000) argument will be explained in the followings. Internet usage shares many information in different ways of social networks sites such as Facebook, LinkedIn, Twitter and MySpace (Appel, 2011). The information is very huge and at times useful for business usage.

Firstly, Internet-based surveys are more cost effective and practical, because surveys and the relative responses is quicker and requires little resources by using the Internet (Granello & Wheaton, 2004; Swoboda et al., 1997). Secondly, the almost instantaneous round-trip data transfer over the Internet allowed for a reduced participant's response time and minimised man-hours in soliciting and eliciting the feedback (Cobanoglu et al., 2001; Kaplowitz et al., 2004). Thirdly, the incoming response or feedback over the Internet can be analysed almost automatically, which means the survey can be configured to be codified classified directly onto a spreadsheet or a database (Granello & Wheaton, 2004), without the need for manual coding and saved both time and resource. Internet is also less expensive (West, 2001) and source of data easily retrieved.

Based on the survey methods, data related to offers, promotions, behavioural patterns, and consumer needs can be readily obtained via the Internet. The wide reach of the Internet allowed for wider sample size, which is different from the argument of Best and Krueger (2004) , which is not all true, because any individual's access to geographical regions with proper software and hardware represented a huge pool of potential respondents (Coomber, 1997; Rogelberg & Stanton, 2007).

Besides that, Companies should be aware of the importance of CI and culture of competitiveness and gathering information is the responsibility of all employees as the world is now becoming more competitive (du Toit & Sewdass, 2014). As a result, the Internet can be used for data collection for companies around the world to compete with each other. It is also important for the companies to understand the information available on the Internet is huge and to understand the product in the market is needed to effectively practice CI in the companies.

2.5 Social Network Sites (SNS) for gathering data

Within the Internet domain, SNSs are important platform for data collection. There are many variations in SNSs, including Instagram, Twitter and Facebook. These sites are important because of the rich source of information. More than 20% of online advertisements appeared on SNSs, which is evident in the rise of the social networking services as the platform for online interaction (Haydon et al., 2012). In the present research, the researcher will be focusing on Facebook as one of the ultimate SNSs, where data for CI will be collected to perform a strategic marketing plan.

2.5.1 Social Networking Sites (SNS) as a tool for Competitive Intelligence

In the previous section, the advantage of SNSs for data collection was described. Following to that, the researcher discusses the impact of SNSs to be used as a tool for CI applications. This section will look into the connectivity across SNSs platform to data collection and to CI process.

Since SNSs require users to create an online profile with photos and bio, a trusted user-to-user interactions will take place in the network that generates the content for the social network, subsequently enlarging its reach (Coulter & Roggeveen, 2012; Qi & Edgar-Nevill, 2011). Those interactions can be either uni-directional (mass announcement style of Twitter) or bi-directional (users exchange information over public comments and private messages) (Qi & Edgar-Nevill, 2011). From the conventional services offered, contemporary social networks allowed users to connect with people outside of the existing circle, based on shared interest or identities, including race, religion or sexual preferences. This development allowed for a higher degree of interactivity and interconnectedness between the users (Boyd & Ellison, 2007). The researchers also explained that the heightened interconnectedness permitted full-scale product

recommendations, which is a consumer-powered marketing effort for a particular brand or product. Furthermore, the introduction of new functionalities in the SNSs as stated by (Harris & Dennis, 2011), such as Facebook OpenID and in-site monetary purchases, welcomes the possibility of more financial-oriented features.

The dynamic interaction and interconnectedness in Facebook represented an opportunity for employees from different companies to develop interpersonal relationships and to be connected beyond the existing boundaries (Bose, 2008). Such extended communications enabled information exchange, and consequently the activation of CI operations (Deng & Luo, 2007). Staffs can exchange, in mutual terms, golden CI data such as strategic plans, product research goals, and development objectives between the companies and gain important insights into of a particular agenda (Bose, 2008). Companies can explore and reveal competitors strength, weakness and getting the opportunities to defend secrets that was revealed.

The aforementioned studies have demonstrated on the effectiveness of using SNSs as an important tool for CI gathering, and as well as the dissemination of the preceding CI information. In the following section, the required skills for CI will be further explored.

2.6 The Competitive Intelligence Process

After looking through the required skills to run CI process, a concern was raised regarding the ethics required for a CI practitioner, hence this section will look into the end-to-end process of CI to understand the associated complications. In the CI process, the data can be collected from employees of different departments within the company or through a dedicated unit in a company. Thereafter, the process then leads to the

dissemination of actionable intelligence related to the business objectives and competitor's progress.

Competitive intelligence process involves stakeholders and its constructs of planning and focus, collect relevant information, analysis verified and validate by the stakeholders, communication with stakeholders and contribute to the value add of information to the ongoing project in the organisation for long term and short term strategic planning (Fuld, 1995; Muller, 2002; Strauss & du Toit, 2010). The CI process constructs could assist the decision makers to make critical decision and understand the market and business environment that could give impact to the companies to be more competitive.

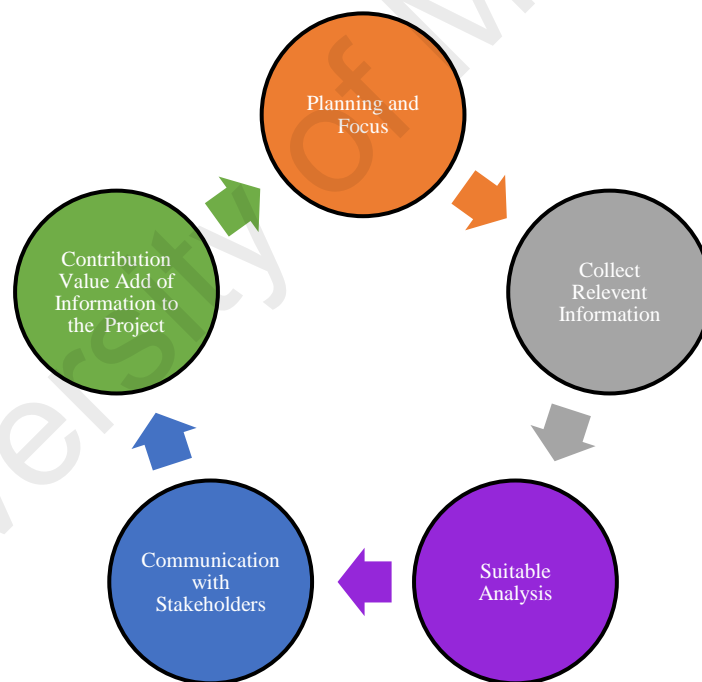


Figure 2.1: CI Process

The United States Central Intelligence Agency (CIA) as described by Fuld (1995), Muller (2002), and Strauss & du Toit (2010) stated that the competitive intelligence process is conducted by applying five interdependent phases shown in **Figure 2.1**, namely (1) Planning and direction (or 'tasking'), (2) Collection, (3) Processing, (4) Analysis and

production, and (5) Dissemination. On the other hand, according to the Society of CI Professionals (SCIP), CI involved five phases as well, including (1) planning and direction, (2) collection, (3) analysis, (4) feedback, and (5) dissemination. Apart from the processes, CI required quite a number of supporting tool, including Internet management tools (Bose, 2008). The following subsections will further exploit each CI cycle.



Figure 2.2: Competitive Intelligence Phases

The CI process is an ongoing activity for the business ecosystem. A research study findings by Phani, Madhumita and Paurav (2012) identifies that CI activities give positive impact to financial performance for Indian firms. There are also study findings for EU and Serbia companies on the importance of CI activities in business performance with the use of Internet and employees to be the primary source of information for CI (Gračanin, Kalac, & Jovanović, 2015). In the general article reviewed, CI activities affect the performance of the companies.

In addition to know what is the suitable product or service to produce, a company needs to understand many aspects of the price that they need to offer to client, where to sell the product or services, when is the suitable time to get the profit and to whom they can sell the product or services. The only way a company could understand the whole picture is by gathering information from the business environment. CI is viewed to acquire information, refine and filter information within the organisation to solve the competitive issues with reliable information from making the wrong decision-by-decision

makers. Facebook, seems to reach the objective on one of the approach of providing source of information and value to the organisation.

There are numerous studies reviewed in CI from different industries, companies and firms (eg: Hotel industry) (Köseoglu et al., 2016); biopharmaceutical industry (Aspinall, 2011); telecommunications-related company (de Almeida et al., 2016); shipping companies (Luu, 2014); a software development company (Opait et al., 2016); construction industry (Safa et al., 2015); retail industry (He et al., 2015); automotive industry (Quadros, et al., 2014); high-tech firms (Chevallier et al., 2016). Proving from previous reviewed studies, Competitive intelligence offers huge benefits in the organisation such as to sustain growth of enterprise, decision process of selecting contractors, improve in business policy and strategy, increase countries competition in the global economic, obtain different source of competitor's information, more informed and understanding in the market place, innovation performance, providing competitors information with strategic management process (Franco, Magrinho, & Ramos Silva, 2011; Gaidelys, 2013; Phani, Sampada, & Shubhra, 2009; Safa et al., 2015; Sewdass & du Toit, 2014; Stefanikova, Rypakova, & Moravcikova, 2015; Tanev, 2007). The indications of the importance of CI are applicable to different types of industries companies and firms with it benefits in the organization.

2.6.1 Planning and direction;

According to Bernhardt (1994), collecting data for CI will require the answers for the following three important questions;

1. What is required to be learnt?
2. Why is the requirement?

3. What kind of decision or action has to be taken after fulfilling the requirement?

Knowing that the major reason for undertaking CI is to underpin and enhance strategic decision makings at the business level, the answers to the questions must be strategically relevant to the firm. One example question is how the competitors are trying to move ahead and how the company is going to counteract. Thus, planning and directing in CI requires the ability to anticipate and respond to specific intelligence needs. Consequently, managers or CI professionals should have a clear understanding of the role of CI and what not during the planning and directing phase.

2.6.2 Collection and Processing;

The main activities in the collection and processing stage are the identification of all potential sources of information coupled with the researching and gathering of the right data in legal and ethical manners and putting it in an orderly fashion.

Rouach and Santi (2001) categorised information collection into three types of data:

- White Information (open-source information) are publicly in databases, newspapers, etc., and more recently on electronic databases and the Internet.
- Grey Information included data from private domain information, such as trade shows, publications, or from salesman during visits from respective customers
- Black Information is illegally obtained data, e.g., through computer piracy or telephone wire-tapping.

2.6.3 Analysis;

Gathered data is not equivalent to good intelligence, unless it has gone through a thorough test, which involved the data being processed and scrutinized via severe analysis

(Fleisher, 2001). This is the value-added element of CI. Since analysis is described as being the catalyst for making groundbreaking business decisions, the managers give importance during the analysis and synthesis the data, consequently converting the data into actionable information (Fleisher, 2001; Gross, 2000). Furthermore, based on data analysis, a CI analyst rendered intelligence from the company's external business environment, ranging from the economic aspects, customer attitudes, and technological developments, into wider aspects of political and demographical shifts of the business' operating circle (Egan, 2001). The other angle of analysis is how managers must be receptive to intelligence, especially when the 'news' is not the actual expectation (Bernhardt, 1994).

2.6.4 Feedback;

At this stage, the impact of CI is measured by policy makers. According to Bose (2008), feedback will be required for the following questions: Was it used? How – or why not? Did it result in making a deal? Did it save money? Boost the company's reputation? How can the process be refined? The answers are expected to provide the analyst with important ideas for continuous improvement or further investigation.

2.6.5 Dissemination;

This is the final stage in the CI cycle, where dissemination of the findings will be carried out in the form of report to the policy makers (Bernhardt, 1994). Since the report will consist of alternative strategy and latest recommendations for a business, hence the findings could be used as inputs for further analysis, including competitor profiling, scenario planning, and scenario analysis (Bose, 2008). The further analysis can be carried out via the World Wide Web, where the integrated high level of interactivity

allowed for real-time dissemination of competitors' company profiles, product description, and as well as the user base of such products (Angelides, 1997).

2.7 Past Successes from Competitive Intelligence

Competitive intelligence (CI) is the action of being one step ahead of the competitors via long-term strategies and extra skills. Dishman and Calof (2008) studied if CI can be considered as a complex business construct and a guide for marketing. As a result, it was found that the CI is not complex and the information gathered can be used for marketing strategies and thus improve revenue.

A research conducted by Tanev (2007) discussed the impact of adopting CI for a small Canadian company, where the company observed improvements in precise selection of suppliers, easily narrowed down the targeted consumers according to products and services offered, and introduction of revenue generating innovative products (Phani et al., 2012) discovered from the recent study of applying CI for Indian firms that the corporate and marketing strategy evidently increased the revenue and market footprint. In addition, with the current success rate of CI, the Indian firm implemented CI for the end-to-end study of market dynamics, consequently providing a strategic plan for the firm's growth. These are all possible because CI provides inputs to the managers on the current and upcoming competitions, including the current own organisation's strengths, weaknesses, financial capability, and consumers' requirement.

In the case of South Africa, it is a country recorded with the lowest rank in the world for competitiveness, however the local businesses actually adopted CI programme to be competitive in the global arena. Bose (2008) researched on the process of forming a CI that operated based on text mining, web mining, and visualisation-based tool, which were

accurate on gathering and investigating intelligence. From these various CI mediums, executive decision makers and strategic managers will have a better understanding of which findings will be appropriate for decision making. In another study, Calof and Wright (2008) stated that adopting the view of CI required careful decision making process and tactical management staffs. As a whole, it is proven that CI successfully gathered, analysed, and managed external information improved a company's plans, decisions and operations.

2.7.1 How CI is used for Formulating Marketing Strategies

Ultimately, CI is widely applied to improve marketing strategy, however the application differs according to corporations and countries. For example, the marketing strategy in Japan, specifically for international market, focused on Competitive Intelligence for the acceptance, understanding, and application of marketing principles according to the market that Japan wishes to enter (Genestre et al., 1995). In the case of Apple, Amazon, and Starbucks, the marketing strategy has a different approach, and it's important that companies have its own unique strategy to succeed and compete (Shankar et al., 1998).

However, to attain a profitable marketing strategy, the implementation process has to be more rigorous compared to its formulation (Fifield, 2012). Another important parameter that has to be in mind is the customer satisfaction while planning a marketing strategy (Ferrell & Hartline, 2013). It is important to understand that without these strategies planning via CI, it will be impossible to go against a competitor. Formulation of marketing strategy comes into picture when a company wants to plan a unique strategy to differentiate its own corporation from competitors for betterment process. Therefore, implementation and formulation should come hand in hand to be successful and unique.

Yap and Md Zabid (2011) explained that Malaysian public listed companies did practice CI based on them recognising the importance of the environmental sector, acquired intelligence from that sector and used it in strategic decision making.

2.7.2 Corpus Analysis and Academic Texts

Kahaner (1997) explained CI in a number of steps via either linear constructs or sequential processes. Key constructs of the CI programme can be found in the followings literatures:

- i. Planning and focus. This initial step comes into the planning stage of the CI activities and objectives relative to the issues that are most vital to senior management (Gilad & Gilad, 1986; Daft et al., 1988; Herring, 1998)
- ii. Collection step focused on the information gathering from various sources, including internal and external sources (Collins, 1997; Herring, 1998)
- iii. Analysis process converts the collected information into “actionable intelligence”, which will be the platform to establish strategic and tactical business decisions (Calof & Miller, 1997; Gilad & Gilad, 1986; Herring, 1992; Kahaner, 1997)
- iv. Organizational awareness and culture is where the effective CI execution will be monitored by everyone within an organization (Kahaner, 1997)

The success of CI is when all the employees within an organization participates and understands the importance of CI. This includes the know-how of planning, gathering the various information from different resources, and analysing the obtained information by the domain experts. Most importantly, CI process must be systematically applied to achieve an expected outcome.

2.8 Internet, Social Media and Marketing Strategy for Malaysian companies

The Malaysian government is currently driving the growth in the food industries as they are part of the service sector which ultimately contributes to the national economy of Malaysia (Economic Planning Unit, 2015). The strong performance in the service sector is underpinned by higher output in domestic food and beverage industries. This implies that the development of economy are attributed to food and beverage companies which contribute to the service sector of the Malaysian economy.

The 11th Malaysia plan emphasizes on growth and the development of the services sector. One of the ways to accelerate the growth in the economy is by utilising the Internet via the social media for business and online marketing (Economic Planning Unit, 2015). Rural and suburban communities and companies in Malaysia that acquired new skills and knowledge on the usage of Internet were able to generate alternative sources of income. The Internet allowed these companies to conduct online marketing, promotion and branding to increase product sales. These activities were surmised to be part of a marketing strategy.

There are still limited research on CI in Malaysian context. **Table 2.3** is a summary of findings from previous scholars on the context of CI research in Malaysia. Thus, it is important to highlight that more research is needed to encourage Malaysian companies to implement competitive intelligence in the organization as it is seen to be an important aspect of developing the nation's economy and positioning Malaysia to be more competitive locally or internationally.

Table 2.3: Summary of Findings on Studies related to CI in Malaysia

Author	Findings
Yap and Md Zabid (2011)	Competitive intelligence practices by public listed companies on relationship between competitive intelligence and firm performance finds that Malaysian companies are practicing competitive intelligence on a moderate level.
du Toit and Sewdass (2014)	A research findings on a competitive intelligence activities in 4 countries which are Brazil, Malaysia, Morocco and South Africa using competitive intelligence information to compete in global economy. Information is gathered directly from customers and corporate websites
Yap and Md Zabid (2011)	In general, Malaysian companies are currently practicing competitive intelligence on moderate level based on input from 123 public listed companies in Malaysia
Samsudin and Abdul Kadir (2006)	Survey finds that, GLC organisations in Malaysia uses competitive intelligence for decision making and marketing strategies.
Juhari and Stephens (2011)	The study evaluated ICT companies in Malaysia that provided competitive intelligence software for the SME cluster. The study revealed that that there are only 10 competitive intelligent software that are suitable for the SMEs cluster.

2.9 Background of the companies used in the case study

In the present study, the CI process is carried out across five food and beverage companies, namely Secret Recipe, Pizza Hut, Baskin Robbins, Starbucks, and Big Apple & Donuts Coffee. Secret Recipe successfully penetrated the global and local market, where the major products offered are the traditional Malaysian dishes. In the case of Pizza Hut, there are 8,000 restaurants in the United States (US), which made the outlet among the powerful brands in the US (Mike & Slocum, 2003). In Korea, Baskin Robbins offered high quality services and products, as result highly contributed to the financial success of Baskin Robbins. Starbucks restaurants, on the other hand, had been able to position the company as an international business with phenomenal growth (Roby, 2011). Finally, Big Apple & Donuts Coffee achieved many awards, such as SME Rising Star Award 2008 and Asia Pacific Excellence Brand Top Global Magazine (Big Apple Donuts & Coffee, 2013). The food and beverage companies were selected because these food and beverage companies adopted the Internet which allowed for information to be collected on the

marketing strategy of the CI context. In this study, the food and beverage companies is investigated within the Malaysian market.

2.10 Gap Analysis

In this chapter, a thorough literature review has been conducted to investigate if there is any existing overlapping researches on the following areas:

- i. The utilisation of the Internet for CI;
- ii. Data Collection of CI using the Facebook as a platform (Primary Source);
- iii. Dissemination of information from CI to public;
- iv. Application of CI using data from the Internet.

The overall summary of literature reviews is tabularised in **Table 2.4**. As can be seen from the table, previous studies have shown that limited research has been carried out before on how information could be gathered from Facebook pages as a primary source. Therefore, the researcher believed that it is an important gap that could become a valuable input for the competitive intelligence in the company. Moreover, there is limited research on dissemination of information for CI to public.

Table 2.4 clearly shows that there is still a gap on Data Collection of CI using the Facebook pages as a primary source for marketing strategy. Application of CI using data from the Internet has also been studied by previous scholars. However, from the literature study conducted, there are limited studies on the use of information from the Internet as a source of input for the CI information gathering of marketing strategy.

Table 2.4: Gap Analysis on Previous Research

Authors	Utilisation of the Internet for Competitive Intelligence	Data Collection of CI using the Facebook pages (primary source)	Dissemination of information for CI to public	Application of CI using data from the Internet
Nasri (2011)	/	x	x	x
Smith, Wright, and Pickton (2010)	x	x	/	x
Gay (2012)	x	x	/	x
Bartes (2011)	x	x	x	/
Mohammad Tarikul, Muhammad Mashihur, and Mohammad Idris (2011)	x	x	x	x
Zaraté (2012)	x	x	/	x
Capatina, Nistor, and Bleoju (2013)	x	x	/	x
Bagnoli and Watts (2015)	x	x	/	/

2.11 Competitive Intelligence Research Studies in the Food and Beverage Industry

Based on information gathered from literature studies, to the authors' best knowledge, there is currently no study that primarily focuses on competitive intelligence in the food and beverage industry. However, there is a related study to some portions on the application of competitive intelligence. For example, a case study that investigated on collecting data and analysing the tweets of Walmart and Costco was able to show that CI gathered can be used to solve business problem and improve competitiveness against competitors (He et al., 2015). Furthermore He et al. (2013) shows text-mining from Facebook and Twitter among pizza chains (Pizza Hut, Domino's Pizza and Papa John's

Pizza) provides value to the business in terms of increasing interaction with customers, understanding their customers better and giving impact on the customer service areas in the context of CI. Therefore, the food and beverage industry believe advertising information via online marketing could lead to a higher return on investment (ROI) as well as leveraging the company's brand and engaging with customers. In the point of view of competitors and CI practitioners, it is valuable information on how they could monitor companies in the food and beverage industry by having better interactions with customers and creating brand awareness that could solve issues that may prove to be advantageous to the business.

In Malaysia, the fast food concept kicked off with the first opening of A&W restaurant on Jalan Tuanku Abdul Rahman in 1961 (Bougoure & Neu, 2010). Consequently, this has resulted in many other multinational fast food players entering the market to also set up their business in Malaysia. Fast food restaurants in Malaysia have been springing up with the serving of onion rings to double cheeseburgers, fried chicken to pizzas (Muhammad Fazli, 2005). Nowadays, fast food restaurants can be seen everywhere in Malaysia, not only in the urban areas and shopping malls, but also in the suburbs and along the highways. For instance, the first KFC outlet opened on Jalan Tunku Abdul Rahman in 1973. Since then, the number of KFC outlets has reached 390, most of which are located in all the major cities and towns in Malaysia. Today, the number is still growing (www.kfc.com.my). As a result, it is not surprising that the fast food industry in Malaysia is able to become a multimillion-dollar industry and generate billions of Ringgit Malaysia in yearly sales. According to the International Market Bureau of Canada, estimated per capita expenditure for food is USD 0.85 per day and with the estimation of 1.8 billion world Muslim population, the demand for *Halal* food product will be reaching

USD 580 billion a year (Ilyia Nur et al., 2011). With the high volume of tourists in Malaysia and the increase of Malaysia population to 28 million, the demand for food service will grow tremendously in Malaysia. Consequently, this will also increase the demand for *Halal* food.

Given this development, many multinational fast food players have grabbed the opportunity to open their outlets in Malaysia either to expand their business broadly, independently or jointly with Malaysian partners. Proven from literatures as well, Malaysia SME's food products could penetrate the international market to generate more revenue from these countries (Sazrinee et al., 2014). Currently, there are various fast food players in the Malaysian market such as McDonalds, KFC, Burger King, A&W, Wendy's, Kenny Rogers, Marrybrown, Nando's, Pizza Hut, Domino's Pizza, Subway, Dunkin Donuts, Big Apple Donuts & Coffee and Krispy Crème. However, almost 85% of the market share in the Malaysian fast food industry is dominated by three foreign market players, namely McDonald's, KFC and Pizza Hut (Malaysian Business, 2000). The remaining market share of the industry is divided among the large number of international, national and local fast food stores.

Clearly, a study on the food and beverage industry will provide a better understanding on the importance of CI. However, previous studies have yet to address the issue on gathering information from the food and beverage industry in Malaysia in CI context. The purpose of this study is to explore two case studies on the utilisation of Facebook by the food and beverage industry as a source of information and its relevance and importance for CI.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter introduces the research methodologies that are based on quantitative and literature review techniques to collect primary and secondary data. Primary data was derived from a survey and a case study of the Facebook pages belonging to the five fast food companies while the secondary data was collected from the literature reviews, annual report and sales revenue report from *Suruhanjaya Syarikat Malaysia (SSM)*. Both quantitative and literature review approaches are important for data collection, which will enable the processes of assembling, examining, interpreting and analysing data for its relative intelligence. As a result, a strong reason or justification can be formed for the problem statement.

Primary data was obtained from an Internet adoption survey, published annual report and SSM on revenue (financial year end of 30 September 2013). The survey was used to obtain precise information from the respondents on the usage of the Internet for business. The annual report published on the Internet was used to obtain information on the programme held by Pizza Hut and Starbucks and sales revenue reported. The business performance data was obtained from SSM's sales revenue report.

Secondary data were obtained via the case study on Facebook pages of five fast food companies. The case study was used to gather the information from the Facebook itself. The data collected was quicker and more effective as the information disseminated from Facebook is constructed by the company itself and was catered for the Malaysian market.

Secondary data from literature reviews was also used to gain baseline knowledge on the current environment of food and beverage companies. Both primary and secondary

data were used to prove the marketing strategy of five food and beverage companies using literature review and quantitative data. The different sources of information was needed to discover the marketing strategy using CI information gathering approach. Having accurate, precise and reliable information is important to develop a marketing strategy.

Table 3.1 and **Table 3.2** provide an overview of the research objectives, research method and deliverables of this research.

Table 3.1: Overview of the Research of Objective 1

Research Objective	Research Method	Analysis	Deliverables
Objective 1: Utilisation of the Facebook by food and beverage companies as a source of information for CI that is used for marketing strategy	1. Literature Review 2. Survey	Statistical analysis on the Internet adoption	Findings regarding Internet adoption and the perceived benefits

Table 3.2: Overview of the Research of Objective 2

Research Objective	Research Method	Analysis	Deliverables
Objective 2: To investigate the usage of Facebook by five food and beverage companies in Malaysia as a source of information for CI that is used for marketing strategy.	1. Literature Review 2. Case Study	1. Bose criteria on accuracy, relevance and usability of data for the CI process 2. Overarching messaging for disseminating and gathering information as a source for the CI process 3. Annual report and sales revenue from SSM for improved business performance	Evidence of the data is used for: 1. CI for information gathering 2. Utilising CI for marketing strategy 3. Improving business performance

Based on the research objectives, the research for primary data and secondary data was used to examine the Internet adoption in food and beverage companies in Malaysia as well as the use of Facebook by five food and beverage companies for Competitive Intelligence. The secondary data derived from the Literature review examined available literature and outlined the research gaps on the use of Facebook for Competitive Intelligence.

The data was interpreted by using quantitative analysis and literature review analysis. The mixed method approach used the outcome of the results to derive a conclusion.

3.2 Research Methodology

The research methodology is based on literature review, survey, and case study on Facebook, while data collection used both the literature review analysis and quantitative analysis approaches. At the end of the research on the Internet adoption in Malaysian food and beverage companies and Facebook case study of five food and beverage companies, a quantitative analysis and literature review analysis were conducted. The mixed method approach was selected to link the results from the study.

3.2.1 Literature Review

In the case of literature review as part of the methodology, the present study reviewed numerous literatures on the Internet adoption for business. More specifically, on the benefits to the food industries, barriers in the broadband adoption for Internet usage, and concerns surrounding the Internet usage.

The literature review also involved studying gaps in current literatures, on the usage of Facebook for CI purposes.

3.2.2 Survey

The survey was conducted to determine the adoption of the Internet and the usage of Facebook in food and beverage companies in Malaysia. The survey questionnaire was distributed to 200 food companies in the food and beverage companies. A complete data set of 87 questionnaires was collected. The respondents of the survey were upper level management and middle management.

This phase involves the process of two stages. Stage 1 is the pilot study that includes the question design, sample size and pre-test activities of the questionnaires, and solving the issues related to data collection activity. Stage 2 includes the distribution of questionnaires and the data capture activities. The author sourced the initial list of companies within the same domain and interviewed the experts who would provide input to the researcher on the questionnaire design. The questionnaire and the face-to-face interviews were concurrently conducted from the 10th to 14th of October 2012 at HalFest exhibition in Kuala Lumpur.

Thereafter, Microsoft Excel based histogram and pie charts were used to record the data from the questionnaires to generate dynamic applications. The Software Package For The Social Sciences (SPSS) was used to analyse quantitative data from the data collected. The analysis of this research consisted of a statistical analysis that was also used to provide evidence of the respondents' inclination towards Internet adoption and its perceived benefits. The statistical analysis is based on Cronbach's alpha interpretation on the significance of the survey. Please see **Appendix A** and **Appendix B** for the respective Survey Forms and the Survey methodology used in this research phase.

3.2.2.1 Data Analysis

Data analysis is determined as a process for structuring and organising the data gathered during the phase of data collection (Creswell et.al., 2003). Several scholars refer to this process as a logical search. The analysis of quantitative data needs to be handled methodically to allow it to be arranged correctly. Scholars such as Sandelowski (2000) and Tisdall, Davis, and Gallagher (2008) acknowledged that quantitative data researches are wealthy in meaning because they give information in a variety of ways. Sandelowski (2000) and Tisdall et al., (2008) acknowledged that because quantitative data work with meanings in addition to their analysis is carried out through conceptualisation. It requires reasoning and the need to distinguish between data and ideas to maintain that though quantitative analysis needs the usage of ideas, the ideas need to be guided through the data which is being analysed. The analysis should reflect the content of the collected data.

3.2.2.2 Missing Data and Screening Data

Missing data refers to unavailable information for a subject (or case) in the questionnaire (Hair et al., 2010). Missing data is caused by the respondent's refusal or forget to answer one or more questions. Although, the questionnaire has included a guideline in order to decrease the missing data or answering twice for one item. However, it is found 0 cases have removed for having double answers for some questions or because of not answering most of the questionnaire, which made them not usable for this study.

To check the error, the study needed to look for the values those falls out the range of right values for the items (Yeung, 2014). It is important to check the errors before starting the analysis because these errors can distort the result. In order to check the errors, frequency analysis has been done for each item. A complete data set of 87 questionnaires was analysed and declared free of missing data.

3.2.2.3 Statistical Analysis

Statistical analysis was computed and analysed using the Statistical Package for the Social Sciences (SPSS) for window program version 23. In general, the analysis of the data was performed in two stages. In the initial stage, the analysis involved conducting explanatory data analysis to examine the data before any specific statistical procedure were used to analyze them (Chin, 1998).

Explanatory Data Analysis: The main goal of all explanatory research is to answer the question of why. It attempts to go above what exploratory and descriptive research to identify the actual reasons a phenomenon occurs. The goal of explanatory research scientific explanatory research was to explain data in details and not just reporting.

Test of Normality: In order to check the assumption on normality is met, this study employed several descriptive plots and statistical test on the data set. Histogram, box plot and normal probability plots are plotted to visually examine the distribution of data. Besides this, statistical normality test using Kolmogorov-Smirnov test was also performed to further confirm on the distribution of data.

Descriptive Statistics: Descriptive statistics is a powerful tool that describes and understands data as it summarises and present in a meaningful and useful way. Summarising data is essential as it is able to analyse the results of the study that can easily be comprehended by others (Leary, 1991). This study employed several descriptive statistics namely Measures of central tendency, measures of variability and frequency distribution. These statistics were used to extract and summarise quantitative information from the sample.

Measures of central tendency helped to find a single index that could represent the whole set of measure. This study utilised the mean which is also known as average/arithmetical mean (Ary et al., 1996; Runyon, Coleman, & Pittenger, 2000) to describe data in terms of average values as the variables investigated in this study were all interval data.

McQueen and Knussen (1999) reported that mean could give a more precise measure compared to other measures of centrality such as median or mode; it takes into account the value of every score and more stable especially when the samples are randomly drawn from the target population. Based on these justifications, mean being a superior index for the purpose of inferring population parameters from the sample is used in this study to describe data representing the dependent variable, all the independent variables as well the mediating variables (McQueen & Knussen, 1999).

Besides measures of central tendency, this study also utilised measures of variability to find out the dispersion or variability of the data set. The most commonly used variability is the standard deviation. It is used in conjunction with mean to describe the data. It is also an interval statistic. Therefore it is able to describe the degree of dispersion of all the interval variables, both dependent as well as independent variables of this study. Frequency distribution was also used in this study to extract important features of the quantitative data. The original data was condensed or grouped and presented in a summarised form by constructing appropriate tables and charts.

Reliability Test: The data was analysed using the SPSS program. The responses for each item were carefully keyed in; the SPSS reliability sub-program was used to measure the cronbach's alpha coefficient of reliability. All the reliability obtained must indices

that are computed for the variables, both dependents and independents, achieved the reliability coefficient of .70 or more meaning that the reported indices imply that all the variables of the study are acceptable as they fall within the standard of accepting the reliability coefficient of .70 as predetermined in the study. This explained that all the items used in the instrument are relevant for the target population and reliable in measuring the underlying construct. No further changes were needed to the research instrument.

Correlation Statistics: Correlational statistical technique was used to determine the strength of the relationship or co-variation that exists between two quantitative variables (Ary et al., 1996). The strength of the relationship between two variables was measured by the coefficient of correlation, r , whose value range from -1 to +1. When the relationship between two variables is positive, it means that high scores of one variable are associated with high scores of another variable and vice versa. When there is a relationship, correlation coefficient can also determine the strength of the relationship, whether the variables have a strong relationship or a weak relationship.

The closeness of the correlation coefficient to one implies a strong relationship between the two variables. When the correlation coefficient is zero, there is no correlation between the two variables. This study employs Boles and Elifson (1998) rule of thumb to interpret the strength of the relationship.

Pearson product moment coefficient of correlation developed by Karl Pearson, is used in this study. It is also known as correlation index. This index was chosen not because it is the most commonly used correlation index but because it is able and can only be used when the scale of measurement for the variables is interval or ratio (Ary et al., 1996).

Since all the variables to be correlated are measured on an interval scale, Pearson correlation coefficient is appropriate for this study.

In fact, Pearson correlation coefficient is also an appropriate measure of relationship between two variables when the quantitative variables are normally distributed (Pallant, 2013). It provides a meaningful index for indicating relationship, with the sign of the coefficient indicating the direction of the relationship and the difference between the coefficient and zero indicating the degree of the relationship. With that, this correlation analysis was valid for this study.

Having explained the justification for utilising correlation statistic, this study employed this statistics to address the research questions. It is appropriate to determine the relationship between the dependent variable and the independent variables of the study. Firstly, all the three components were combined to obtain an aggregate (overall measure) of dependent variable. This measurement then correlated with all the independent variables as well as the mediating variable.

Besides measures of central tendency, this study also utilised measures of variability to find out the dispersion or variability of the data set. The most commonly used variability is the standard deviation. It is used in conjunction with mean to describe the data. It is also an interval statistic. Therefore, it is able to describe the degree of dispersion of all the interval variables, both dependent as well as independent variables of this study. Frequency distribution also used in this study to extract important features of the quantitative data. The original data are condensed or grouped and presented in a summarised form by constructing appropriate tables and charts.

3.2.2.4 Independent Variables

Perceived benefits was measured with 15-items scale. Each item rated on a 5-point Likert scale “1= strongly disagree to 5 = strongly agree”. Ways of using the Internet was measured with 14-items scale. Each item rated on a 5-point Likert scale “1= strongly disagree to 5 = strongly agree”. Attitude towards Internet was measured with 6-items scale. Each item rated on a 5-point Likert scale “1= strongly disagree to 5 = strongly agree”. Reasons for not having Internet access was measured with 9-items scale. Each item rated on a 5-point Likert scale “1= strongly disagree to 5 = strongly agree”. Concern regarding Internet access was measured with 9-items scale. Each item rated on a 5-point Likert scale “1= strongly disagree to 5 = strongly agree”.

3.2.2.5 Dependent Variable

Internet Adoption was measured with 13-items scale. Each item rated on a 5-point Likert scale “1= strongly disagree to 5 = strongly agree”. Please see **Appendix A** and **Appendix B** for the respective Survey Forms and the Survey methodology used in this research phase.

3.2.3 Case Study on Facebook

The case study analysis on Facebook began with cross-checking the usage of Facebook by the food and beverage companies that participated in HalFest. However, upon examining Facebook, it was found that the companies had very limited engagement and some did not even have a Facebook account. Thus, the research was updated to analyse five food and beverage companies in Malaysia that already had Facebook presence.

Content analysis methodology was used to examine the information obtained from Facebook site of the selected five food and beverage companies. The five food and

beverage companies are Secret Recipe and Big Apple Donuts & Coffee, while the international franchisees are Starbucks, Baskin Robbins, and Pizza Hut. The principal reason behind choosing these particular brands for the research case study was due to the food and beverage Company's established image as well as to provide a mix of company type to represent the food and beverage companies in Malaysia.

The approach to the case study involved four (4) main stages as shown in **Figure 3.1**. The first stage involved codifying information into pre-defined categories in order to derive patterns during the presentation and reporting phases of the information (Guthrie & Abeysekera, 2006). Hence, the content analysis started with the planning and gathering of the information from the Facebook pages according to twelve categories (12), which were specified in literatures and are based on different type of posts and fans activities (likes, posts and share).

In the second stage, this particular method was used to analyse the information in text format that is available on the Facebook pages related to the case study. In the context of the present research, the information that were extracted from the Facebook were categorised and examined. One of the examples was to understand the phenomena on why companies exposed the information that are accessible by public and why there were more "likes" during the festive seasons compared to non-festive season. The investigation also included the evaluation of the layout design of the collected information, such as the use of colours, background, graphics, unusual fonts, and dynamic audio-visual messages. Furthermore, the issue on the accessibility and the navigability through the site maps, search engines, and deep links to other significant web sites were also observed and evaluated.

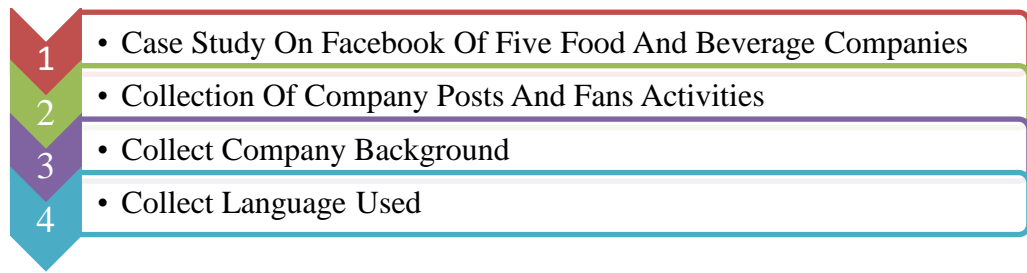


Figure 3.1: Case Study Process

The third and fourth stage involved collating the company background as well as the language used in Facebook of the five food and beverage companies respectively. All of these data were analysed to understand how the five food and beverage companies utilise Facebook for disseminating information. While the fifth stage involved data collected from Facebook. It includes number of share, number of likes and number of comments.

Once the information was collated, the author then proceeded to analyse the value of intelligence in a CI process based on Bose' Criteria, types of Overarching Messaging and the Sales Revenue of the five food and beverage companies to determine the relevance of the case study research.

3.3 Case Study Analysis

Figure 3.2 shows the steps in analysing the findings from the case study to determine its use in a CI Process, type of message categories that can be used for CI and improved business performance based on the research gathered in the case study.

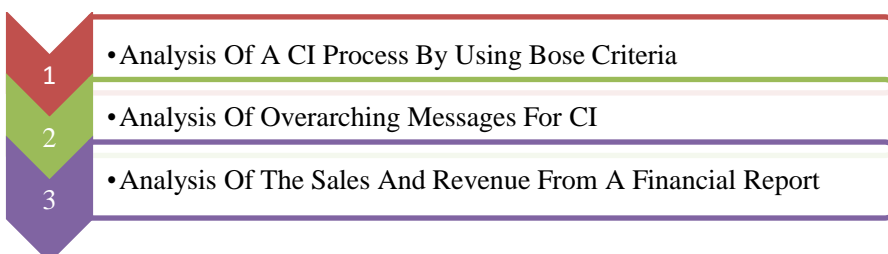


Figure 3.2: Case Study Analysis Steps

3.3.1 Analysis on CI Process by using Bose Criteria

Bose (2008) stressed the value of the intelligence is measured from one or more of the following criteria:

- Accuracy – Data and information are from reliable source(s).
- Usability – Information are comprehensible and ready for immediate application(s).
- Relevance and applicability – Fit for purpose, meeting the objectives of the business intent e.g. seeking market information regarding similar products or services to be produced by the business or towards the development of marketing plans.
- Readiness – Meeting the request of the stakeholders and the requirements of the decision makers in the organisation.
- Timeliness, action-readiness – the intelligence must be relevant for the decision makers.

The information regarding the interactivities of the user were gathered and analysed to confirm that Facebook is used to market and promote the organisation's brand, product and their services. This included identifying the Facebook rich features that can be leveraged to create their market presence cost effectively. The information collected was mapped against Bose criteria such as the accuracy, usability, relevance and applicability, readiness and timeliness, which is used to analyse the value of intelligence.

3.3.2 Analysis on Overarching Messages as a source for CI

The Overarching Messages which contains seven umbrella categories such as Brand awareness, Engagement, Customer Service, Corporate Social Responsibility, Customer Service, Product Awareness, Promotional and Seasonal, is designed and developed to frame Social Media marketing messages (Coursaris et al., 2013). These marketing messages are a form of marketing information which can be transformed to meaningful

intelligence (Wright et al., 2004). The intelligence can be used as part of the CI process to analyse market share, market trends, target markets and competitor activity (Wright et al., 2004).

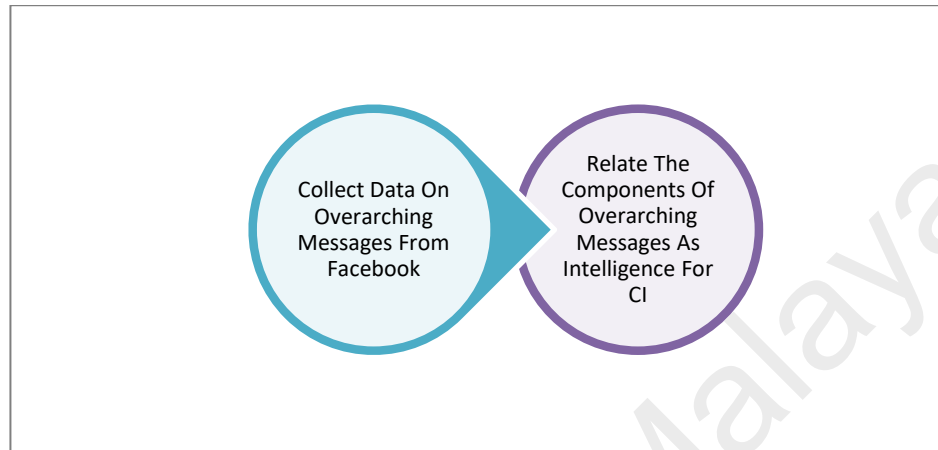


Figure 3.3: Overarching Messages Analysis Process

The analysis therefore aimed to determine that the five food and beverage companies have components of the Overarching Messages which can be used for data gathering and the CI process.

The process to analyse the overarching message as a source of CI is shown in **Figure 3.3**. The process started by observing and collecting data from each of five food and beverage companies on the usage of 7 categories of overarching criteria for year 2012 and 2013 (August until December). For each year of the specific month, data was tabulated based on the 7 categories and sub-categories of overarching messaging. The categories and sub-categories of Overarching Messages are shown in **Table 3.3**.

Please see **Appendix C** for the information mapping analysis conducted on the Overarching Messages.

Table 3.3: Overarching Messages Categories and Subcategories

Categories	Subcategories
Brand awareness	Promotion Heritage Operations
Corporate social responsibility	Awareness Fundraisers
Customers service	Openings Outages Public Service Announcements (PSA)
Engagement	Assistance Community Likes Photos Video Polls Questions Appreciation Directional
Product Awareness	Name Brands House Brands
Promotional	Deal Chance
Seasonal	Holiday Season Event

Finally, an analysis was conducted to relate the Overarching Messages with the CI process.

3.3.3 Analysis on Facebook for Improving Business Performance

The analysis of how a company improved its business performance by means of the utilisation of Facebook was performed by conducting a content analysis on each company's annual report and specifically, the sales and revenue information of the five food and beverage companies researched.

The information from Overarching Messages as described in Facebook by the five food and beverage companies was then mapped to the five food and beverage company's

Sales and Revenue performance data. The sales and revenue information was then tabulated in a table to show the linkages between the engagement activities and the business performance.

There is a limitation to this research as Pizza Hut and Starbucks, which are public listed companies, are the only companies that have annual reports available for public use. The other three food and beverage companies did not have annual reports published. The author therefore opted to purchase their financial statements from the Malaysian Registrar Commission (SSM) to determine their sales revenue growth.

University of Malaysia

CHAPTER 4: RESULTS AND FINDINGS

4.1 Overview of the Chapter

In this chapter, the complete results of the survey and case study via Facebook are thoroughly discussed. The results are related to objective 1 of the research which is to investigate the adoption of the Internet by food and beverage companies, where up to 259 surveys forms were distributed to food and beverage companies that participated in the HalFest exhibition in 2012. From the 259 surveys, 87 forms received response. The outcome of the survey is analysed via statistical analysis method, where the objective is to understand the perceived benefits of adopting the Internet amongst the food and beverage companies in Malaysia as a source of information.

The research focus of objective 2 is the usage of Facebook by five food and beverage companies in Malaysia as a source of information for CI that is used for marketing strategy. This objective is completed via a case study on how five food and beverage companies utilised the Facebook for disseminating and gathering information to conduct. The outcome of the case study defined the value of intelligence of Bose Criteria, the types of Overarching Messages used in Facebook, and business performance improvement, which are extracted from the companies' annual report or sales revenue.

4.2 Research Findings and Analysis of the Survey

This research is conducted to examine the Internet adoption amongst the food and beverage companies in Malaysia. The following sub-sections will discuss the results and analyses of the nine (9) selected questions from a total of fifty-nine (59) questions in the survey conducted at the HalFest in 2012, which focused on the usage of Internet for competitive information. Additional result analyses can be found in **Appendix D**.

4.2.1 Findings Related to the Demographics

Table 4.1 is a summary of the demographic analysis conducted on the 87 respondents who answered the survey at HalFest 2012.

Table 4.1: Demographic results extracted from the survey

Questions	Categories	Percentage (%)
Company Location	Northern Region (Kedah, Penang, Perak, and Perlis)	24
	Central Region (Kuala Lumpur, Selangor and Negeri Sembilan)	52
	Southern Region (Malacca and Johor)	14
	East Coast Region (Pahang, Terengganu, and Kelantan)	4
	Others(Sabah, Sarawak, and Labuan)	5
	Not available	1
Respondents' Position	CEO	21
	Manager	55
	Head of IT	4
	Others	20
Operational Duration	Less than 1 year	9
	1 to 5 years	52
	6 to 11 years	10
	12 to 17 years	11
	18 to 23 years	3
	More than 23 years	14
	Not Available	1

Of the 87 survey respondents, (52%) of the food companies are located in the Central region of Malaysia, while only a fraction (3%) of the companies are situated in the east coast region. 1% of the respondents did not respond to the question on Company Location in the survey. Most of the respondents belonged to the middle management at (55%), followed by CEOs at (21%) that represented the top management of a company. The rest of the respondents are Marketing Executives (20%), Assistant Managers, Business Development Executives, Executives, Operators, Salespersons and the Head of IT (4%). Therefore, the survey conducted in the present study has received feedback from various level within a corporate structure. Most companies (43%) employed 5 to 50 full-time employees, 34% of the companies have less than five full-time employees, 13% of the companies have 51 to 150 full-time employees, and the remaining 10% have more than

150 full-time workers. On the sales revenue, 16% of respondents estimated that the employer reached a revenue of between RM 10 million and RM 25 million. The reason for choosing these particular case studies is due to the established image as well as they represent the food and beverage companies in Malaysia

4.2.1.1 Normality and Outliers

The normality test used to prove the data is normally distributed. The normality of data distribution is essential as this study plans to run a hierarchical regression analysis, which is a form of the multiple regression analysis (Hair et al., 2010). It is necessary to continuously screen constructs for normality of data distribution in the early stages of multivariate analysis.

The normality checking was conducted on every single construct (Tabachnick & Fidell, 2007). This study used two types of normality test, which were Histogram test, and A P-P plot test to ensure that the data was truly normal and ready for analysing.

However, as the normality of every single construct does not guarantee the normality in multiple regressions (Hair et al., 2010), the assumption of normality was tested further with hypotheses testing. The other Normality tests of Histograms and P-P plots were conducted for double checking of the data normality. The histogram, when made up of normally distributed data, formed a "bell" curve when a smooth probability density function is produced using kernel smoothing techniques. This line that generalised the histogram appeared to look like a bell. The purpose of a histogram is to graphically summarise the distribution of the data set. Moreover, according to (Hair et al., 2013) the curves of factors are normal. The Histogram results showed that the data are normally distributed with a bell shaped feature.

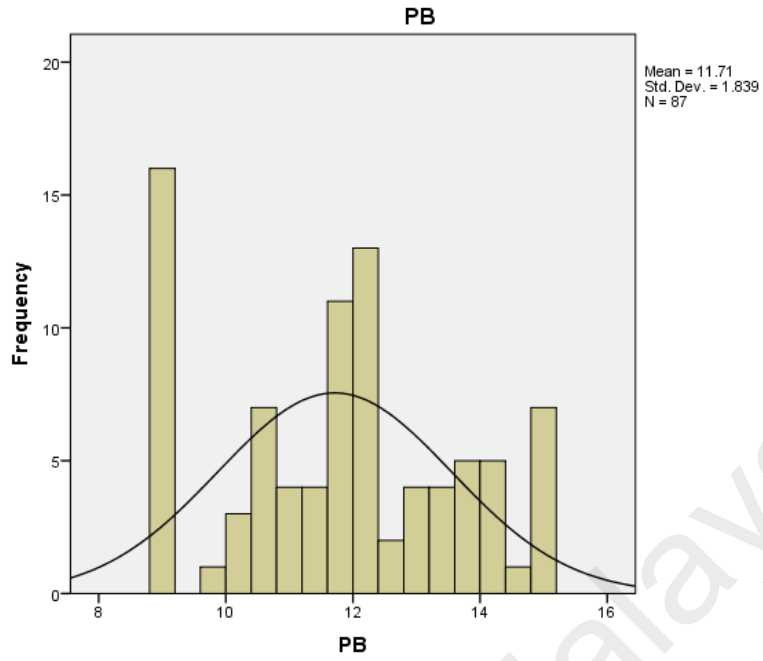


Figure 4.1: Histogram of Perceived Benefits

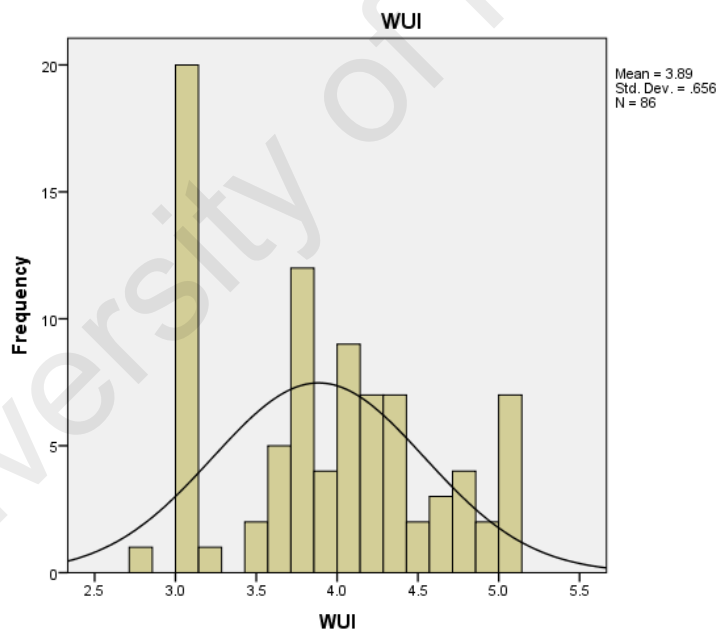


Figure 4.2: Histogram of Ways of Using the Internet

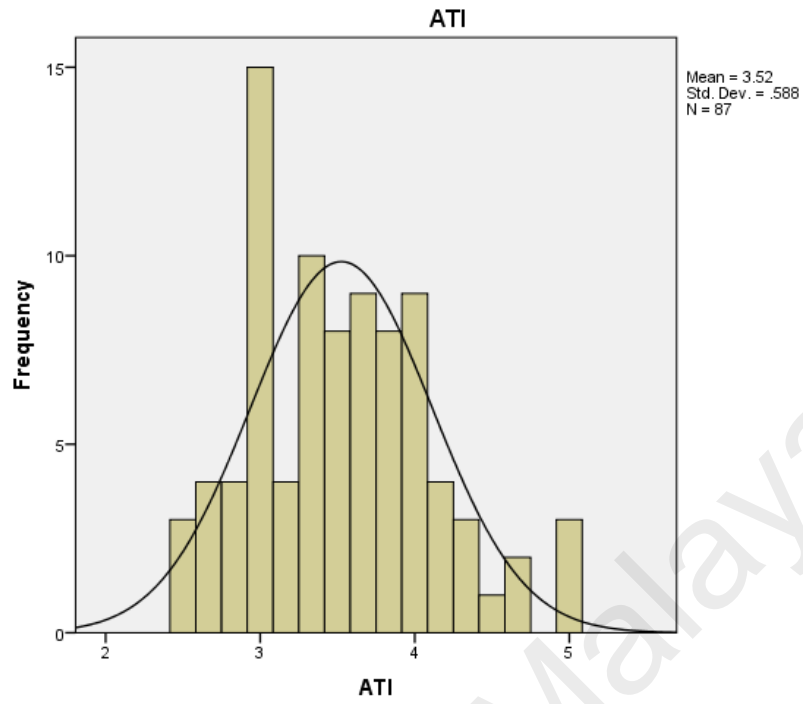


Figure 4.3: Histogram of Attitude Towards Internet

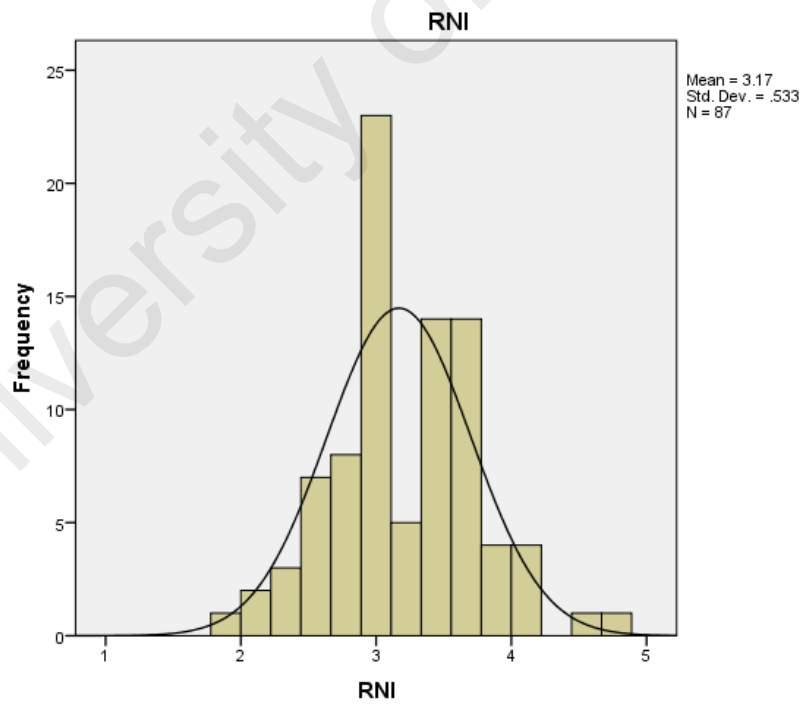


Figure 4.4: Histogram of Reasons for Not Having Internet Access

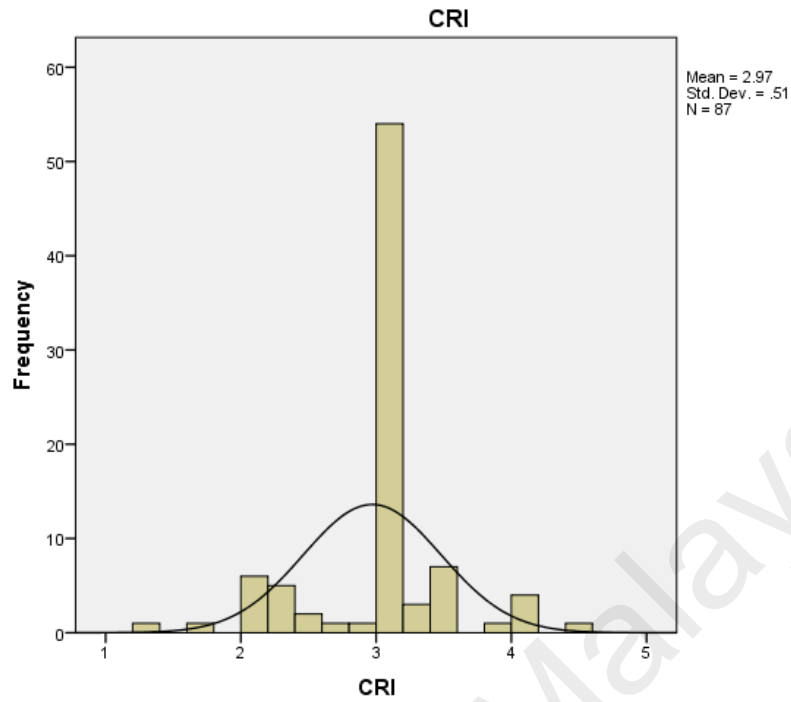


Figure 4.5: Histogram of Concern Regarding Internet Access

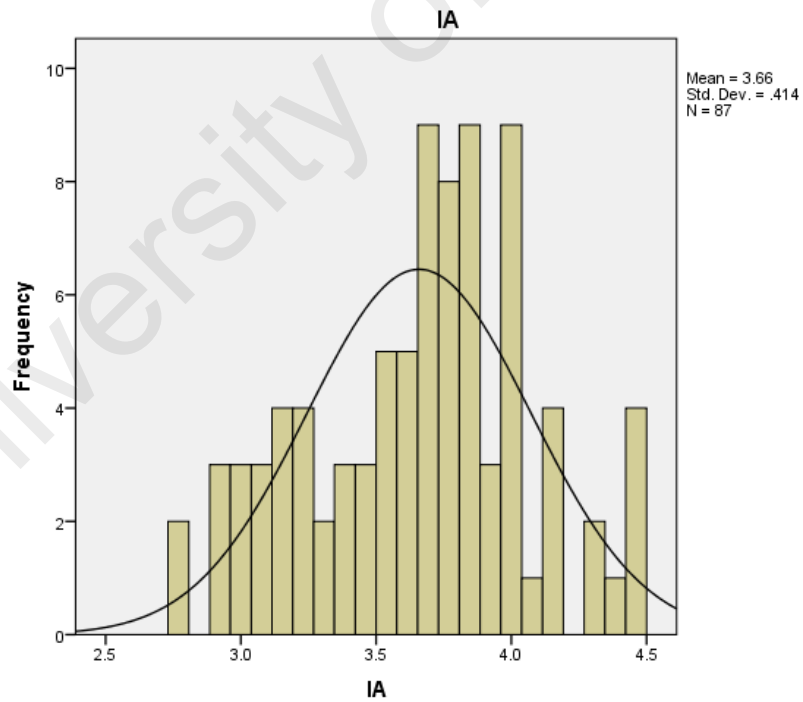


Figure 4.6: Histogram of Internet Adoption

The second normality test used in this study is P-P plot test. A P-P plot is a graph that can also help you decide whether your data are Normal or not. The P-P plot is a probability plot for assessing how closely two data sets agree, which plots the two cumulative distribution functions against each other (Gibbons & Chakraborti, 2011). The results of P-P plot showed the little circles follow the line pretty well, with some random scatter about the line; the data are close enough to being Normal for our purposes. Thus, the data are normal and ready for analysis.

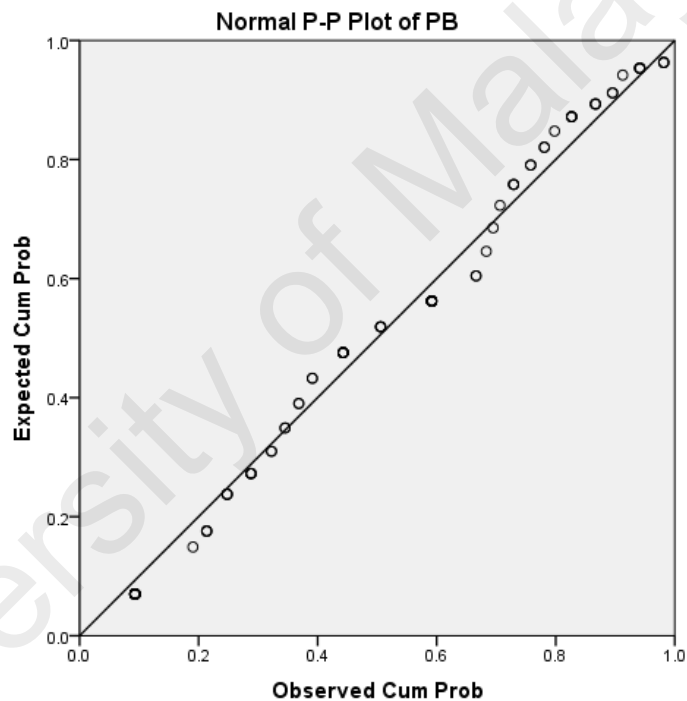


Figure 4.7: Normal P-P Plot of Perceived Benefits

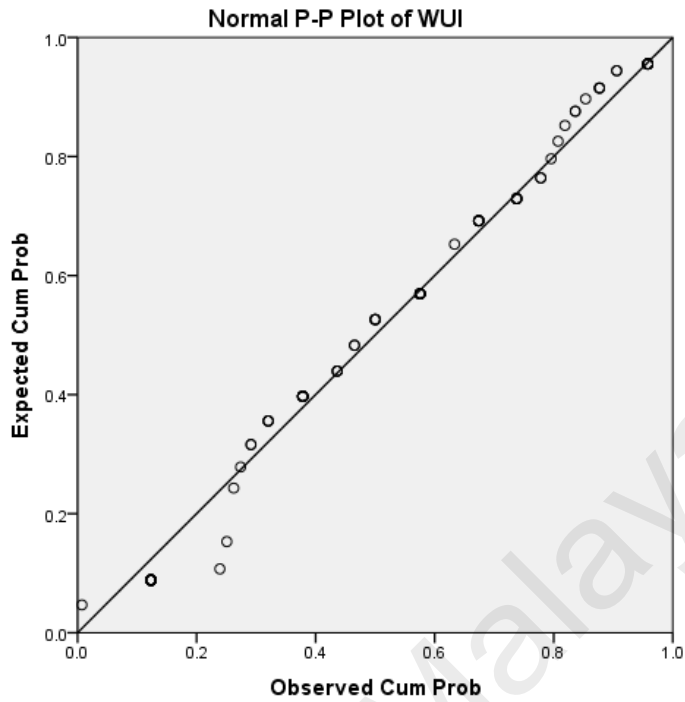


Figure 4.8: Normal P-P Plot of Ways of Using The Internet

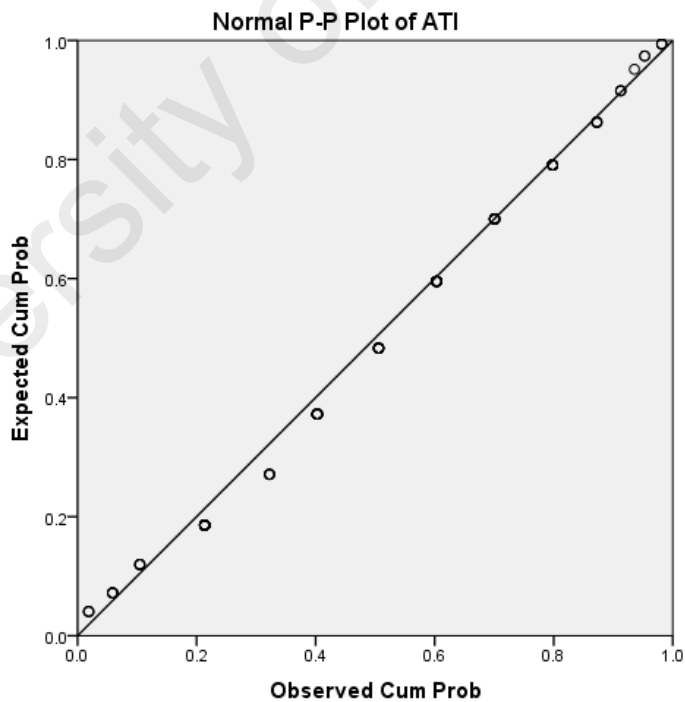


Figure 4.9: Normal P-P Plot of Attitude Towards Internet

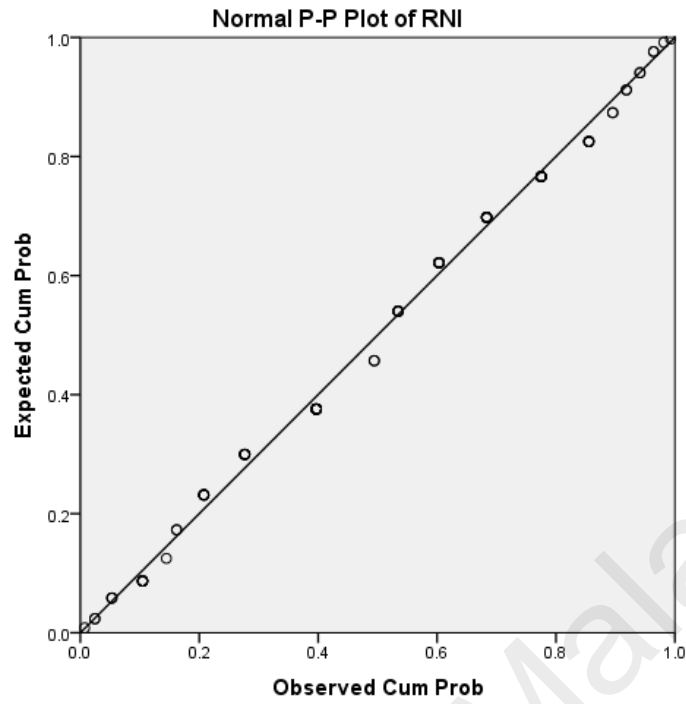


Figure 4.10: Normal P-P Plot of Reasons for Not Having Internet Access

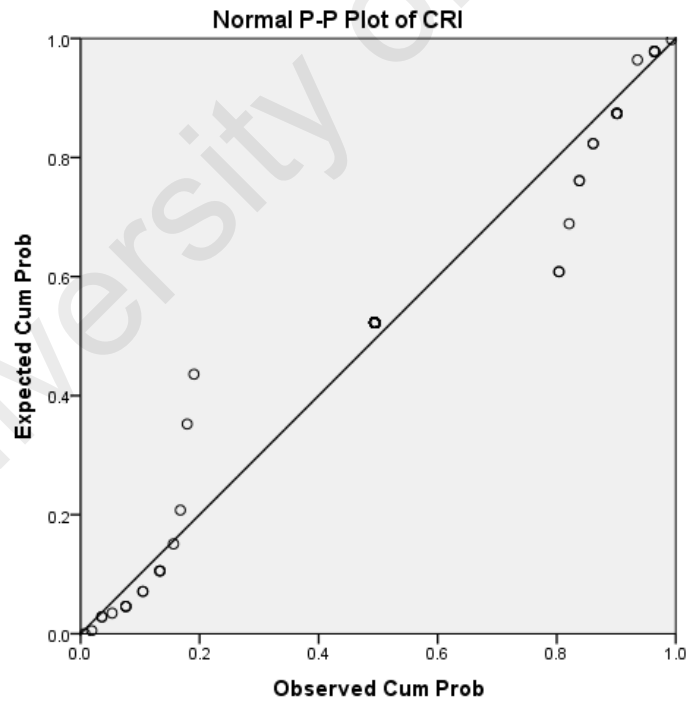


Figure 4.11: Normal P-P Plot of Concern Regarding Internet Access

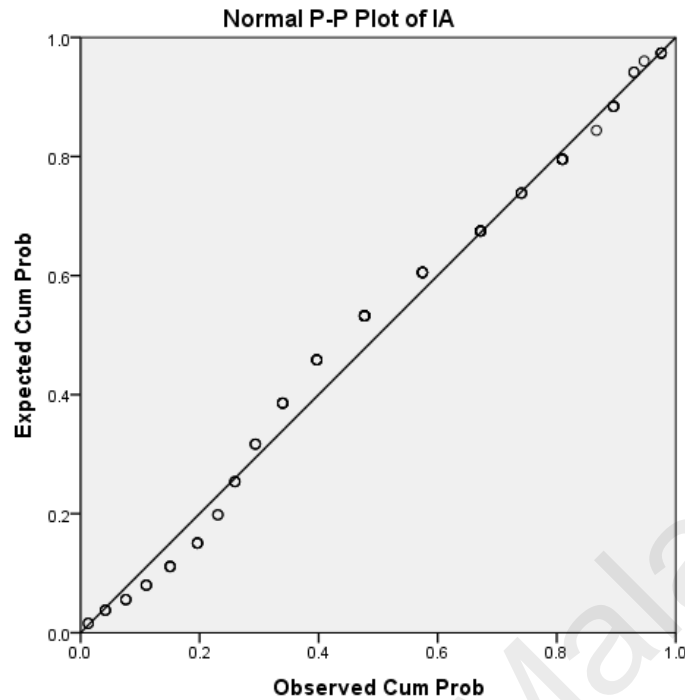


Figure 4.12: Normal P-P Plot of Internet Adoption

This research also checked the Outliers. According to Zikmund (2003), the outlier is referred to the data that has value lying-out the normal range of dataset. Moreover, Cookes and Steed (2003), identified the Outliers as “extreme cases which have considerable impact on the regression solution”. For this reason, the technique has utilised in order to check the outliers of the data in each variable were the Z-score. The data is outlier when the Z-score value more than +3 or less than -3 (Cooke & Steed, 2003). However, there was no outlier of the data found.

4.2.1.2 Kaiser-Mayer-Olkin and Bartlett’s Test

In order to be sure that the independent variables have the significant corrections with dependent variable, the factor analysis was applied (Hair et al., 2010). The Kaiser- Mayer Olkin’s Measure of Sampling Adequacy (MSA) test and Bartlett’s Test of Sphericity was used to find the suitability of the research data to the factor analysis. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is a statistic utilised to identify the percentage of

variance of the research's variables. Moreover, the index range of Kaiser-Mayer Olkin's Measure of Sampling Adequacy (MSA) is from 0 to 1, so the measurement is as follows:

1. If the percentage is 1 that means each variable is perfectly predicted without error by the other variables.
2. If the percentage is .90 or above that means marvelous,
3. If the percentage is .80 or above that means meritorious,
4. If the percentage is .70 or above that means middling,
5. If the percentage is .60 or above that means mediocre,
6. If the percentage is .50 or above that means miserable and,
7. If the percentage is below (.50) that means unacceptable.

This study used The Kaiser- Mayer Olkin's Measure of Sampling Adequacy (MSA) test and Bartlett's Test of Sphericity in order to find the suitability data for factor analysis. The Kaiser-Mayer Olkin's Measure of Sampling Adequacy (MSA) for this study was found to 0.906, which is considered marvelous. That means the data is ready to be factor analyzed.

The Bartlett test of Sphericity is used in this study in order to find the significant correlations among of the research variables. Moreover, it refers to correlation of variables if they are related or unrelated. In order to find the significance level of the test, the result of value should be less than 0.05. However, the level of significance for the Bartlett's Test of Sphericity was 0.000, which means the data are suitable for factor analysis test. Thus, the results of Kaiser-Mayer Olkin's Measure of Sampling Adequacy (MSA) and Bartlett tests illustrate that the data meet the fundamental requirements for factor analysis in **Table 4.2**.

Table 4.2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.906
Bartlett's Test of Sphericity	Approx. Chi-Square	41362.804
	df	2211
	Sig.	.000

4.2.1.3 Validity and Reliability

As mentioned in the previous chapter, validity and reliability of the items were used in order to decrease the incorrect answers as much as possible during the stage of data collection, and testing the data goodness as well. Validity is used to measure what it is intended to be measured by accurate method for data collection (Sekaran, 2010), whilst reliability is used to make the item error free in order to get consistent results (Hair et al., 2010).

4.2.1.4 Convergent and Discriminant Validity

Data were analyzed by utilising principal component factor analysis using Varimax rotation with Kaiser normalization technique. Kaiser-Guttman Rule (Eigenvalues greater than one) and scree plot were utilised in order to find the proper loading for the items (Chin, Gopal, & Salisbury, 1997; Yeung, 2014), **Table 4.3** illustrates the results of the factor analysis of the principal component. The factor analysis found out the items that captured for the later analysis. In order to provide the best solution, the analysis should be based upon both convergent validity and discriminant validity. Therefore, the convergent validity was established depending on all the strong loaded instruments according to their respective factors (loading $>.50$) (Chau & Tam, 1997) or (loading $>.40$) (Guadagnoli & Velicer, 1988) However, any particular factor loaded strongly on its respective factor instead of another factors (Chau & Tam, 1997). **Appendix M** shows the discriminant validity analysis results.

Factor analysis is a multivariate statistical technique which uses to analyze the correlations structure amongst the large number of factors (Hair et al., 2006). Moreover, it is depended on number of common dimensions. Thus, factor analysis can assess the author to find out if a certain number of instruments do or do not constitute a construct (Straub et al., 2004). Factor analysis has two important features, separate structure dimensions are identified, extended and explained based on each factor by each dimension, and the set of factors is decreased by the summarising and reducing data (Hair et al., 2006).

Three constructs were extracted from this study. In order to be sure that these constructs illustrate minimum amount of variance, hence, the criterion approach had to be used in order to find the percentage of the variance.

Table 4.3: Discriminant Validity Analysis and Correlation

	PBI	WUI	RNI	ATI	CRI	AI
PBI	1					
WUI	.641*	1				
RNI	.356*	.306*	1			
ATI	-.053	-.077	.674*	1		
CRI	.009	-.022	.305*	.566*	1	
AI	.785*	.656*	.520*	.199	.279*	1

Note:

* Correlation is significant at the 0.01 level ($p < 0.01$)

AI = Internet Adoption

CRI = Concern Regarding Internet Access

ATI = Attitude towards Internet

RNI = Reasons for Not Having Internet Access

WUI = Ways of Using the Internet

PBI = Perceived Benefits

The factor solution provides the summary of variance, cumulative variance and eigenvalues. In **Table 4.4**, information about the extracted constructs or components are

obtained from the extorted summation of squared loadings groups. The values of principal components extraction will be similar to those stated under initial eigenvalues.

Table 4.4: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	26.024	38.842	38.842	26.024	38.842	38.842
2	7.157	10.682	49.524	7.157	10.682	49.524
3	6.503	9.706	59.230	6.503	9.706	59.230
4	4.134	6.170	65.400	4.134	6.170	65.400
5	3.569	5.327	70.727	3.569	5.327	70.727
6	3.247	4.846	75.573	3.247	4.846	75.573

A grouping of constructs of total variance should be 60% or more in order to consider suitable in social sciences (Hair et al., 2013). The results of this study displayed in **Table 4.4** reveal that the first constructs provide large value of the total variance, the three constructs that are extorted value for the total variance is 75.573% shows in **Table 4.5**. Therefore, the three constructs can be applied in the investigation of the questions of the study.

4.2.1.5 Reliability Assessment

Sekaran and Bougie (2010) have defined the reliability as “An indication of the stability and consistency with which the instrument measures the concept and helps to access the goodness of a measure” (Sekaran, 2010). According to Straub et al. (2004), a vital step in the validation of the item is to check the reliability of the item in order to be certain about the accuracy of measurement so as to reduce the error in measurement. However, there are many kinds of reliability that are explained in the literature, for instance, the common type of reliability which is used more often in the information system domain is known as consistency reliability. The internal consistency was

determined according to calculation of the average inter item correlations by Cronbach's alphas. Measures are typically reliable with the presence of greater correlation between other measures or larger Cronbach's alphas. The alpha coefficient has no standard limitation point, however, there is a general lower limit of .70 for the Cronbach's alpha. Results of the reliability analysis are illustrated in **Table 4.5**. Based on these results, the data is reliable and it can be used for the hypothesis tests in **Table 4.6**.

Table 4.5: Reliability Testing Results of the Measurement

Construct No.	Scale Name	Cronbach's Alpha	No. of Items
1	PBI	.952	15
2	WUI	.944	14
3	RNI	.811	9
4	ATI	.723	6
5	CRI	.887	9
6	AI	.737	13

Note:

AI = Internet Adoption

CRI = Concern Regarding Internet Access

ATI = Attitude towards Internet

RNI = Reasons for Not Having Internet Access

WUI = Ways of Using the Internet

PBI = Perceived Benefits

4.2.1.6 One-way ANOVA

Before conducting the regression, it is useful to examine the mean difference between groups. **Table 4.6** summarises the group means for each demographic variable. It gives us an idea of which demographic variable effect dependent variable. In order to test the significance effect between groups, One-Way ANOVA test was performed.

The one-way analysis of variance (ANOVA) was used to determine whether there are any significant differences between the means of two groups. The one-way ANOVA statistic was used to check the control variable. The sample and data collection showed that there are no demographic factors effecting to dependent variables.

Table 4.6: One-way ANOVA test

Factors	F Value	Sig.
Company location	.720	.397
Respondents' position	7.355	.191
Number of full-time employees	.578	.672
Operational duration	8.091	.398
Estimated revenue	7.135	.759

4.2.1.7 Regression Testing

The first linear regression testing was between Internet Adoption and Perceived Benefits. From the answers giving by respondents, this study found significant positive ($\beta = 0.785$, $p < 0.001$) relationship between Internet Adoption and Perceived Benefits shows in **Table 4.7**.

Table 4.7: Results of Regression Analysis Between Internet Adoption and Perceived Benefits

Model	(β)	R Square	Sig
Perceived Benefits	.785	.616	.000

The second linear regression testing was between Internet Adoption and Ways of Using the Internet. From the answers giving by respondents, this study found significant positive ($\beta = 0.656$, $p < 0.001$) relationship between Internet Adoption and Ways of Using the Internet is shown in **Table 4.8**.

Table 4.8: Results of Regression Analysis Between Internet Adoption and Ways of Using the Internet

Model	(β)	R Square	Sig
Ways of Using the Internet	.656	.430	.000

The third linear regression testing is between Internet Adoption and Reasons for Not Having Internet Access. From the answers given by the respondents, this study found that there are no not significant positive ($\beta = 0.199$, na) relationship between Internet Adoption and Reasons for Not Having Internet Access shown in **Table 4.9**.

Table 4.9: Results of Regression Analysis Between Internet Adoption and Reasons for Not Having Internet Access

Model	(β)	R Square	Sig
Reasons for Not Having Internet Access	.199	.039	.065

The fourth linear regression testing is between Internet Adoption and Attitude towards Internet. From the answers given by the respondents, this study found significant positive ($\beta = 0.520$, $p < 0.001$) relationship between Internet Adoption and Attitude towards Internet shows in **Table 4.10**.

Table 4.10: Results of Regression Analysis Between Internet Adoption and Attitude Towards the Internet

Model	(β)	R Square	Sig
Attitude Towards Internet	.520	.270	.000

The fifth linear regression testing is between Internet Adoption and Concern Regarding Internet Access. From the answers given by the respondents, this study found significant positive ($\beta = 0.279$, $p < 0.01$) relationship between Internet Adoption and Concern Regarding Internet Access shows in **Table 4.11**.

Table 4.11: Results of Regression Analysis Between Internet Adoption and Concern Regarding Internet Access

Model	(β)	R Square	Sig
Concern Regarding Internet Access	.279	.078	.009

4.2.1.8 Summary of the Regression Testing

This section provides the summary results of regression testing for this study. The results indicated that out of five relationships, four are accepted. The summary of the regression testing is shown in **Table 4.12**.

Table 4.12: The summary Result of the Regression Testing

Regression Testing	Results
Internet Adoption and Perceived Benefits	Supported
Internet Adoption and Ways of Using the Internet	Supported
Internet Adoption and Reasons for Not Having Internet Access	Not Supported
Internet Adoption and Attitude towards Internet	Supported
Internet Adoption and Concern Regarding Internet Access	Supported

4.2.2 Findings on the Internet Usage

The Internet usage results from the survey is presented in **Table 4.13**, which revealed the summary of 87 respondents that provided feedback pertaining to the usage of Internet in the company.

Table 4.13: Internet Usage Results from the Survey

Questions	Categories	Number of respondents
Internet usage	Yes	71
	No	15
	Not available	1

From the survey, 82% of the respondents cited that the employers have subscribed to the Internet, while 17% of the respondents have not subscribed to the Internet as there is no business need. Only one percent (1%) of the respondents did not respond to this question. Another question is the impact towards a company's image after subscribing to Internet connectivity, where the results indicated that 37% strongly agree to the notion and 33% just agree to the notion, 12% remained neutral, and 2% of the respondents disagreed the notion. However, 16% of the total respondents did not provide a feedback on this particular notion.

4.2.3 Findings on Benefits of the Internet Relative to the Sales

Within the survey, respondents are requested to provide feedback if Internet utilisation improved the overall sales or revenue. 68% of the respondents agreed that the Internet increased sales, while 15% are neutral, and the remaining respondents (17%) did not respond to this notion.

4.2.4 Findings on Benefits of the Internet for Information Collection

In the survey of understanding the effectiveness of the Internet for information collection, majority of the respondents (72%) agreed that Internet is the right platform, 12% remained neutral, and 16% did not respond to the notion.

4.2.5 Findings on Benefits of the Internet Relative to Customer Satisfaction

On the notion of increasing customer satisfaction via the Internet, 37% of the respondents agreed that the platform helps, 32% strongly disagreed, 22% remained neutral, and 9% declined to provide feedback.

4.2.6 Findings from Remaining Survey Results

From the 59 questions provided in the survey form, 9 questions are addressed in this section. There are five other items analysed to further understand the respondents' attitude towards the applications and benefits of the Internet, as discussed in **Appendix D**.

4.2.7 Findings from Statistical Analysis

A statistical analysis was performed to determine the relevance of the information from the survey.

The first statistical analysis was conducted to determine the validity, reliability and consistency of the data in the survey. Perceived Benefits was measured with a 15-item scale and the alpha reliability of this measure resulted in $\alpha = 0.952$. The approach of using the Internet was measured with a 14-item scale and the alpha reliability of this measure resulted in $\alpha = 0.944$. The attitude towards the Internet was measured with a 7-item scale and the alpha reliability of this measure resulted in $\alpha = 0.723$. The reasons behind not having an Internet connectivity was measured with a 9-item scale, where the alpha reliability of this measure resulted in $\alpha = 0.811$. The concerns regarding Internet access are measured with a 9-item scale and the alpha reliability of this measure resulted in $\alpha = 0.887$. Finally, the Internet adoption is measured with 13-item scale and the alpha reliability of this measure resulted in $\alpha = 0.737$.

The overall results demonstrated that **all responses to the survey are valid, reliable, and internally consistent with $\alpha > 0.7$** .

The second statistical analysis is conducted to demonstrate the significant impact of the perceived benefits, approach of using the Internet connectivity and concerns regarding the Internet adoption, which is summarised in **Table 4.14**. Multiple linear regression

analysis is used in this analysis, which included specific control variables, namely age, qualification, and supervisor, followed by some independent variables. The resultant output of the analysis showed that perceived benefits, approach of using the Internet, attitude towards the Internet, and concerns regarding the Internet are positively and significantly associated with the Internet adoption. However, the reasons for not having the Internet connectivity showed no significance with the Internet adoption.

Table 4.14: Results of the Main Effects and the Regression Analysis

Predictors	Perceived Benefits		Approach of using the Internet		Attitude towards the Internet		Reasons for not having the Internet connectivity		Concerns regarding the Internet	
	β	R ²	β	R ²	β	R ²	β	R ²	β	R ²
Internet Adoption	.785***	.616* **	.656* **	.430* **	.520* **	.270* **	.199	.039	.279* *	.078* *

Note:

N = 87

* = p < .05

** = p < .01

*** = p < .001

4.2.7.1 Discussion on Research Analysis

The entire objective of the present research framework was to demonstrate the effectiveness of Internet connectivity in improving the business of food and beverage companies in Malaysia. The Internet provides improvement to a business improvement via its borderless connectivity across the globe. Accordingly, the quantitative method based collected data exhibited that 80% of the companies believe that after the adoption of the Internet, sales revenue may increase by fully leveraging the Internet as a media to promote products and services using Facebook.

Therefore, it is clear from the present finding that the food and beverage companies would be willing to use the Internet due to the perceived benefits that the connectivity would help to improve the sales. Apart from that, the companies that adopt the Internet may also consider using Facebook to gather information of products and services belonging to competitors to cover both CI exercise and improve the existing marketing strategy.

Based on these inferences, a case study is conducted to determine the benefits of Facebook for CI exercise, where the outcome will confirm the followings:

1. The value of intelligence of the data in Facebook according to Bose criteria;
2. Overarching messaging as a source for CI;
3. Annual report and sales revenue from SSM to verify improvement to business performance.

4.3 Research Findings and Analysis Extracted from the Case Study

The research case study covers the food and beverage companies that are operating in Malaysia, which includes both Malaysian home grown or foreign owned equity. The case study investigated the usage of Facebook by five food and beverage companies in Malaysia, as presented in **Table 4.15**.

Table 4.15: List of Food and Beverage Companies

	Food and Beverage Company	Origin of Ownership
1.	Secret Recipe	Malaysian home grown company
2.	Big Apple Donuts & Coffee	Malaysian home grown company
3.	Starbucks	Foreign owned
4.	Pizza Hut	Foreign owned
5.	Baskin Robins	Foreign owned

The following sub-section will discuss the findings of the case study on the five food and beverage companies that adopted Facebook to promote and disseminate information pertaining to the product offerings to its customers. Furthermore, the investigation also extended into testing Facebook as a marketing tool as well as a feedback platform for customers to express perceptions towards the page and the products.

4.3.1 Presence in Facebook

This sub-section reveals the history and impact of the five food and beverage companies that joined the Facebook, as well as the information that was published in the respective Facebook accounts, as summarised in **Table 4.16**. From the table, it is clear that Pizza Hut was the earliest to join Facebook, dated 6th of October 2008, and was still active during the course of this case study. Having continued presence for more than six (6) years on Facebook can be attributed to their large followings. Thereafter, Big Apple Donuts & Coffee was the latest company that joined Facebook, dated 12th of March 2010.

Table 4.16 also presented the types of information posted by the five food and beverage companies in the respective Facebook sites. Pizza Hut, Starbucks and Baskin-Robbins provided information of respective backgrounds, however the mission and vision of the businesses were excluded. All other companies, with the exception of Big Apple Donuts & Coffee and Baskin-Robbins Malaysia, provided information of both the company history and the vision and mission statements. As a result, the customers obtained better insights of the companies' brand identity, thereby creating a better perception among the Facebook followers.

It is evident from the present study that the food and beverage companies utilised Facebook to communicate with the followers, where dedicated e-mail address, posts,

twitter, links to YouTube and hotline contact number were all usually provided within the fan page for ease of communication. For example, Pizza Hut linked its Facebook account with Twitter, and used a website link to perform three different operations, which includes sharing feedback from customers, directing the user to the corporate main page and directing the user to a dedicated YouTube channel.

In the case of Baskin Robbins, the company disseminated information related to employment opportunities and email address since 2013 for communication with the fan base via Facebook. Job openings published on the Facebook page provide some insights of what the company is gearing up towards the future, and a large number of hiring's for business expansion sends out a signal of product and business strengths. Big Apple Donuts provided detailed company information and the varieties of products in offering. The contact details and email addresses allowed communications between fans and the companies' Facebook page administrators. By publicising the relevant information to public, a company creates the perception that it welcomes both positive and negative feedbacks from its followers. Furthermore, the feedback received from the followers will be an input to improve the company's products, services and customer loyalty.

However, Baskin Robbins, Starbucks, and Secret Recipe do not provide information of the products they offer, phone number and location of the premises.

Apart from company details, the food and beverage companies also posted new products and promotional items in conjunction with events or celebrations, including Christmas, Chinese New Year, and Eid celebrations.

Table 4.16: Facebook Details of the Food and Beverage Companies

Facebook Pages	Pizza Hut Malaysia	Big Apple Donuts & Coffee	Baskin-Robbins Malaysia	Starbucks Malaysia	Secret Recipe
Date Joined Facebook	6 October 2008	12 March 2010	11 March 2009	5 October 2009	11 January 2010
Interaction	Posts, comments share and likes	Posts, comments, share and likes	Employment opportunities and products	Website link to twitter, website link to YouTube, location	Website link to main page
Fan Page Rules	N/A	Fan page rules	N/A	N/A	N/A
Aesthetics	Template colours and vibrant colours	Template colours and vibrant colours	Template colours and vibrant colours	Template colours and vibrant colours	Vibrant colours
Languages Used	English and Malay	English and Malay	English and Malay	English and Malay	English and Malay
Features Used To Represent The Company	Fan page, logo as profile picture and profile information	Fan page, logo as profile picture and profile information	Fan page, logo as profile and profile information	Fan page, logo as profile and profile information	Fan page, logo as profile picture, and profile information
Company Background	Founded, history by year, and Pizza Hut signature	Mission, company overview, website link, founded (May 2007) and location and award,	Mission, company overview, website link to homepage, website link to order	Opened on 17 December 1998, and history by year	Founded on 1997, company overview,
Company Information	Location, phone, website link to share feedback, website link to main page, website link to Pizza Hut website, website link to twitter, website link to YouTube	Products, phone number, and email address	Employment opportunities and products	Website link to twitter, website link to YouTube, location,	Website link to main page

As a reaction to the promotions, fans will be able to share opinions by posting feedback (i.e. 'likes', 'share' and 'comments'). There are some common traits among the food and beverage companies in Facebook platform. Firstly, all the companies used a unique template with vibrant colours and pictures to attract fans to their respective Facebook pages. Secondly, all the Facebook pages of the companies used both Bahasa Malaysia and English as the official medium of communications or lingua Franca with the customers. Thirdly, to ensure that all communications between the fans and the company's administrators remain ethical, a fan page guideline governs all the interactions.

From the findings above, it is clear that the five food and beverage companies have provided substantial corporate information in Facebook. These corporate information, when mapped against Bose Criteria of **Section 4.3.2.7** and Overarching Messages of **Section 4.3.2.8**, will provide the necessary information for CI process. The following subsection will demonstrate the findings from the number of posts, likes, shares, and comments that were found in all the five food and beverage companies' Facebook pages. These findings are important to understand the level of engagement between the company under investigation and the respective followers.

4.3.2 Findings on the Utilisation of Information in Facebook

For companies to be more competitive in the market, a well-planned marketing strategy is required. Therefore, the present study will provide specific data sets to formulate useful intelligence, and consequently applying the intelligence to generate an effective marketing strategy. Data originating from Facebook include the number of likes, number of shares, and number of comments. The collected information are then applied to improve a company's performance within its own business environment. In more

detail, the collected information will aid the company in improving the relationship with consumers by the identification of products and services that is widely accepted.

In order to deep dive into the details, the following sub-sections will analyse the types of post, fan activities, likes, comments and shares of the five food and beverage companies that are investigated in the present case study.

4.3.2.1 Findings from Posts Relative to Months

Figure 4.13 depicts the number of posts that were posted on the five food and beverage companies' Facebook page, which are measured relative to months. It is clear from this that all the five food and beverage companies demonstrated consistent engagement with respective customers over Facebook. However, there is a spike in the trend showed in **Figure 4.13**, where the number of posts by Baskin Robbins increased for the month of August 2012, which coincided with the *Aidil-fitr* celebrations. Remaining food and beverage companies did not utilise the fasting season as an opportunity to market their offered products and services.

In the month of October 2012, five companies posted almost similar number of posts, with the exception of Big Apple Donuts & Coffee, inferring that the companies were aware that *Hari Raya Haji* season could be used as an opportunity to further market the products and services. Similarly, Secret Recipe took advantage of the *Deepavali* and *Awal Muharram* festivals in November 2013 to market the products and services as they had a higher number of posts in that particular month.

In summary, this graph clearly exhibited how the food and beverage companies utilised festivals to market their range of products and services. Such strategy is in line with the Seasonal Category of the Overarching Messages.

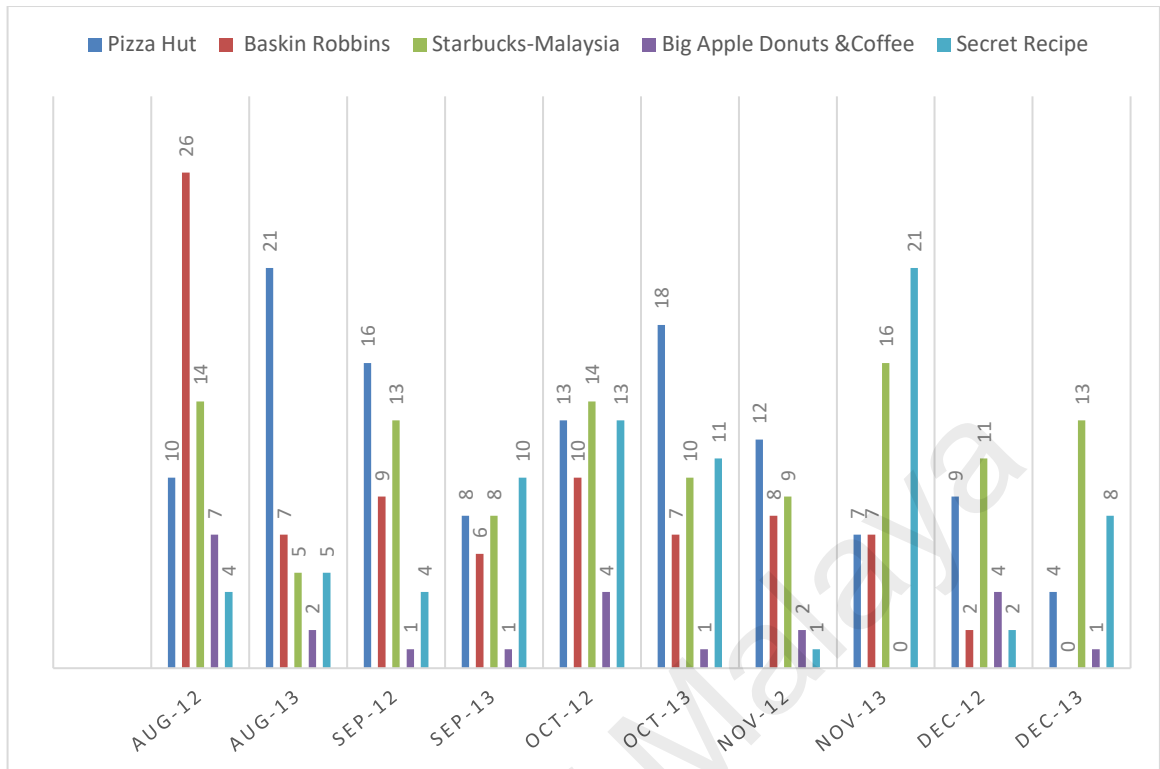


Figure 4.13: Number of Posts Relative to Months

4.3.2.2 Findings on Fans Activities

Figure 4.14 depicts the total number of fans activities during the months of August to December 2012 and August to December 2013. From the results, it is clear that the number of total fans' activities (likes, shares, and comments) have a relationship with the local community's activity, which is to enable the interaction with consumers. The total number of fan activities from each of the food and beverage companies resulted in different values. Pizza Hut obtained the highest fan activities at 103,486 fans, while Big Apple Donuts & Coffee is the lowest at 78,760 fans. The number of fan activities is actually a form of engagement, which is one of the seven categories of the Overarching Messages.

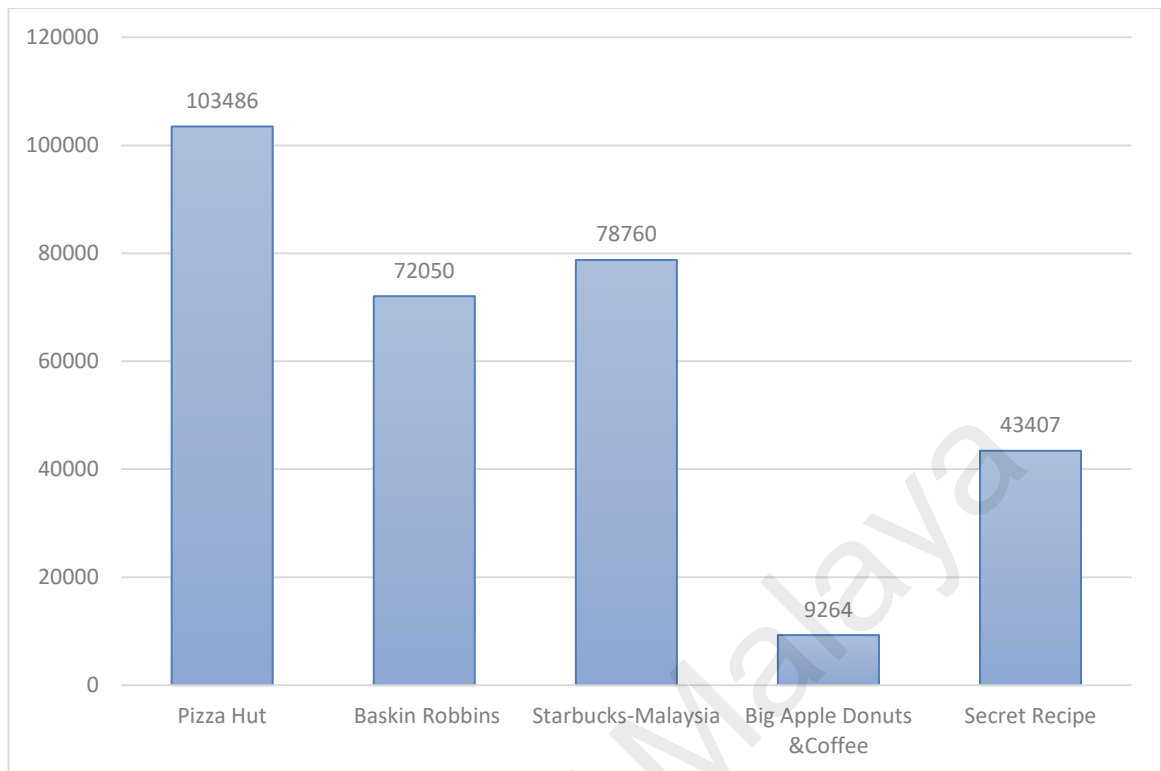


Figure 4.14: Total Fans from August to December (2012 and 2013)

4.3.2.3 Findings on Posts vs Fans Activities

Figure 4.15 illustrates the activity trend between the number of posts and the number of fans activities. The result demonstrated that Pizza Hut experienced the highest number of fans activities with 118 posts, followed by Starbucks at 113 posts, Baskin Robbin at 96 posts, Secret Recipe at 79 posts, and Big Apple Donuts & Coffee with the lowest posts of 23. These results are recorded for the months of August to December for both the years of 2012 and 2013.

The trend in **Figure 4.15** revealed that Pizza Hut, Starbucks-Malaysia, and Baskin Robbins resulted in the highest number of Posts vs. Fan activities. Achieving high rating in Posts vs. Fans demonstrates that a higher number of posts would affect the number of fan activities.

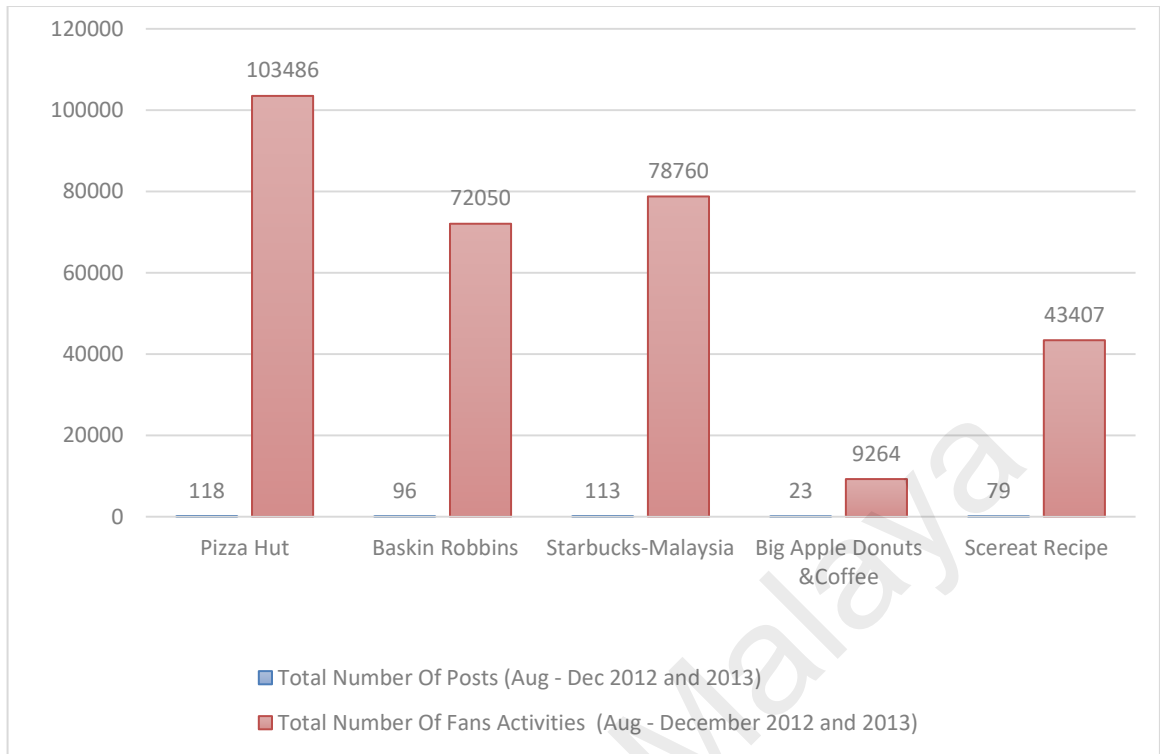


Figure 4.15: Total Number Activities According to Posts Vs Fans for Both 2012 and 2013, Between August and December

It also illustrates that the followers of a particular page have a good engagement level with the owner of the Facebook pages. As mentioned in **Section 4.3.2.2**, engagement is one of the seven categories belonged to the Overarching Messages.

4.3.2.4 Findings on the Number of Likes Received by the Companies

Figure 4.16 presents the accumulated number of ‘likes’ received from customers for the postings of the five food and beverage companies between the months of August to December 2012 and August to December 2013. The findings revealed that Pizza Hut received the highest number of likes, whilst Big Apple Donuts & Coffee obtained the lowest number of likes, between months of August and December for the years of 2012 and 2013. The results are highly correlated to the findings presented in **Section 4.3.2.3**, where a theory is established in the present study that number of posts is directly proportional to the number of likes. The number of likes is important because it will be

visible on the wall of a Facebook page. In other words, the visibility of ‘likes’ can attract more customers to the post and increase the engagement rate, thereby allowing companies to understand customers’ interest. Apart from 'likes', the total number of 'shares' for both years demonstrated a favourable result for Pizza Hut, which obtained the highest amount of shares amongst its fans.

Therefore, it can be concluded that ‘likes’ lead to higher chances of engagement session between companies and fans, which can be used as a marketing strategy. The criterion “Likes” is a sub-category under the “Engagement” category within the Overarching Messages.



Figure 4.16: Accumulated Number of Likes for Each of The Food and Beverage Companies

4.3.2.5 Findings on the Number of Comments Received by the Companies

Figure 4.17 illustrates the total number of comments received by the companies in the months of August to December in year 2012 and August to December in year 2013. This

graph revealed that Pizza Hut obtained more comments from fans compared to the other companies. Similar case can be observed for Starbucks. However, in both years, Secret Recipe and Big Apple Donuts and Coffee demonstrated inactiveness in producing new posts, hence received less comments from fans.

Comments indicated that there is engagement between fans and the company. The comments can be used as an input to the company's marketing strategy.

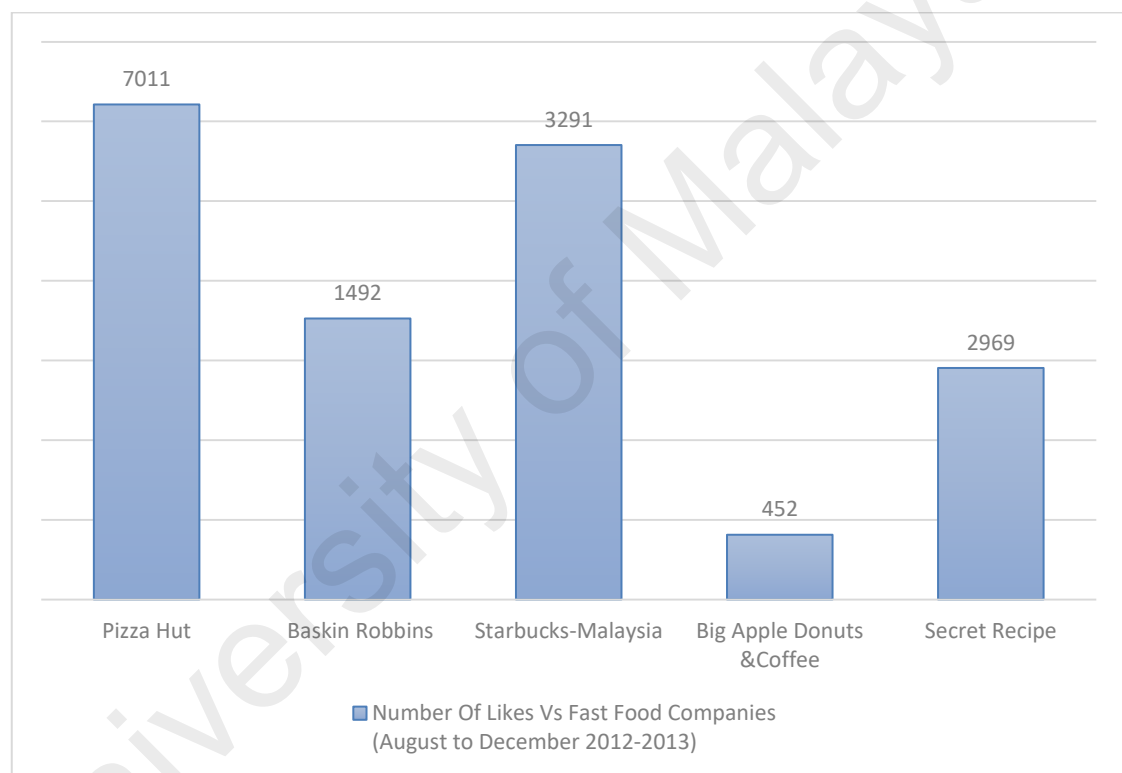


Figure 4.17: Number of Comments Received By Each of the Food and Beverage Companies

4.3.2.6 Findings on the Number of Shares among the Companies

Figure 4.18 depicts the number of shares of the five food and beverage companies' postings. Again, similar to previous sections, Pizza Hut experienced highest number of shares of the posts, while the lowest number of shares was experienced by Big Apple Donuts & Coffee. The increasing number of shares demonstrated that there is more impact to the contents of Pizza Hut compared to Big Apple Donuts & Coffee's contents.

Therefore, from this section, it is clear that sharing mechanism is highly dependent on the quality of the content posted by a business firm.

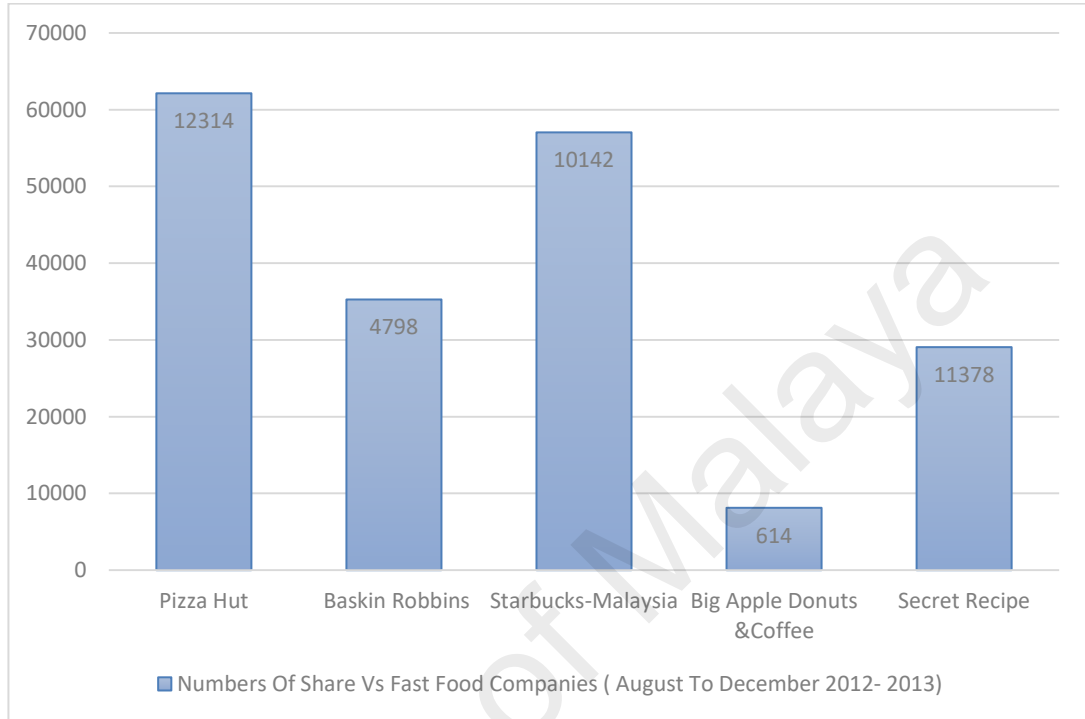


Figure 4.18: Number of Shares

4.3.2.7 Research Analysis: Bose Criteria for CI process

The analyses of posts, fan activities, “Likes”, “Comments” and “Shares” are mapped against the Bose Criteria and summarised in **Table 4.17**. The following inferences are reached:

- i. Accuracy – the information posted on Facebook page is both accurate and reflective of the company's goal as the posts originate from the company itself. Since Facebook pages are password protected, only an administrator with password access would be able to access and upload information into the page.
- ii. Relevance – The relevance of information on products being launched and promoted is derived from the Facebook pages because the information from

the Facebook pages will be used as part of the marketing strategy to improve the business performance.

- iii. Usability – This criterion refers to different types of interaction carried out between the followers and the users of the Facebook page based on the postings made by the company. The usability of information is measured relative to “Comments”, “Share” and “Likes”.

Therefore, based on the above analyses, the information from the Facebook pages belonged to the five food and beverage companies are found to comply with Bose criteria of ‘Accuracy’, ‘Relevance’, and ‘Usability’, which measured intelligence in CI approach.

The findings presented in **Table 4.18** demonstrated that the most popular messaging category is the Engagement Category, as all five food and beverage companies fully utilised Facebook for publishing photos, community messages and directional information.

This is followed by the Brand Awareness category, because the five food and beverage companies actually utilised Facebook to post promotional advertisements. Some of these advertisements include promotional deals, which provided discounts and better impact compared to the conventional coupon system.

The usually used sub-category is Photo (Engagement Category), followed by Community (Engagement Category), and finally Promotion (Brand Awareness Category), as all the five food and beverage companies repeatedly sent similar types of messaging in both years of 2012 and 2013, between the months of August and December.

Table 4.17: Case Study Information Mapped Against Bose Criteria for CI

Bose Criteria	Pizza Hut Malaysia	Big Apple Donuts & Coffee	Baskin-Robbins Malaysia	Starbucks	Secret Recipe
Accuracy	Presence in Facebook since 6 October 2008	Presence in Facebook since 12 March 2010	Presence in Facebook since 11 March 2009	Presence in Facebook since 5 October 2009	Presence in Facebook since 11 January 2010
Usability	Co Information: <ul style="list-style-type: none"> • Background • Outlet Locations • Contact Phone • Website URL 	Co Information: <ul style="list-style-type: none"> • Background, Mission & Vision • Outlet Locations • Contact Phone • Website URL 	Co Information: <ul style="list-style-type: none"> • Background • Outlet Location, • E-mail address • Website URL 	Co Information: <ul style="list-style-type: none"> • Background • Outlet Locations • E-mail address • Website URL 	Co Information: <ul style="list-style-type: none"> • Background • Outlet Locations, • E-mail address • Website URL
Relevance	Products Information <ul style="list-style-type: none"> • New Product • Promotion via You Tube, Twitter • Feedback via Posts, Comments, Shares and Likes • English, Bahasa Malaysia(BM) 	Products Information <ul style="list-style-type: none"> • New Product & Promotion by Face book features • Feedback via Posts, Comments, Shares and Likes • English, BM Bi-language 	Products Information <ul style="list-style-type: none"> • New Product & Promotion by Using Face book Features • Feedback via Posts, Comments, Shares and Likes • English, BM 	Products Information <ul style="list-style-type: none"> • New Product & Promotion through You Tube, Twitter • Feedback via Posts, Comments, Shares and Likes • English, BM 	Products Information <ul style="list-style-type: none"> • New Product & Promotion by Using Face book Features • Feedback via Posts, Comments, Shares and Likes • English, BM
Interaction	Posts, comments, shares, and likes	Posts, comments, shares, and likes	Posts, comments, shares, and likes	Posts, comments, shares, and likes	Posts, comments, shares, and likes

These 2 messaging categories thus indicate that they play larger roles in a marketing strategy, because the number of frequent posting on these 2 types of messaging can be observed in the Facebook posts.

Finally, it can be surmised that all the companies did subscribed to Overarching Messages in its Facebook pages. Furthermore, the present analyses revealed that the top two categories, namely the Engagement and the Brand Awareness categories, are important components of marketing (Ashley & Tuten, 2015) and are relevant as a source of data for the CI process (Wright et al., 2004).

4.3.2.8 Research Analysis: Utilisation of Facebook for Improving Business Performance

The types of messaging approach from Facebook are used to investigate the impact on the company's annual revenue (**Appendix E**). From the research, only two annual reports were published on the Internet, namely reports by Pizza Hut and Starbucks, while the remaining three do not publish revenue related information.

Overall, the analysis shows that Starbucks achieved higher revenue due to its marketing programme on reloading the BStarbucks loyalty card since March 2013. This programme allowed the customers to reload the Starbucks Cards by using the popular social networking sites, including, Facebook and Twitter (**Appendix H**).

Table 4.18: Analysis of Companies Based on the 7 Overarching Messages

Categories	Subcategories	Pizza Hut August Until December		Baskin Robbins August Until December		Starbucks- Malaysia August Until December		Big Donuts & Coffee August Until December		Apple Secret Recipe August Until December		Total
		2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	
Brand Awareness												
	Promotion	/	/	/	/	/	/	/	x	/	/	9
	Heritage	/	x	x	x	x	/	x	x	x	/	3
	Operations	/	/	/	/	x	x	x	x	/	/	6
Corporate Social Responsibility												
	Awareness	x	/	x	x	x	x	x	x	/	/	3
	Fundraisers	x	/	/	x	/	x	x	x	/	/	5
Customers Service												
	Openings	/	x	x	/	x	/	/	/	/	/	7
	Outages	x	/	x	x	x	x	x	x	x	x	1
	PSA	x	x	/	x	x	/	x	x	x	x	2
Engagement												
	Assistance	/	/	x	x	/	x	x	x	x	/	4
	Community	/	/	/	x	/	/	/	/	/	/	9
	Likes	/	/	/	/	x	x	x	x	/	/	6
	Photos	/	/	/	/	/	/	/	/	/	/	10
	Video	x	/	x	x	/	/	/	x	/	x	5
	Assistance	/	/	x	x	/	x	x	x	x	/	4
	Polls	/	/	/	x	/	x	x	x	x	/	5
	Questions	/	/	/	/	x	x	x	x	x	x	4
	Appreciation	x	/	x	x	x	x	x	x	/	x	2
	Directional	/	/	/	/	/	x	/	x	/	/	8

Table 4.18: Analysis of Companies Based on the 7 Overarching Messages (Continued)

Categories	Subcategories	Pizza Hut August Until December		Baskin Robbins August Until December		Starbucks- Malaysia August Until December		Big Apple Donuts & Coffee August Until December		Secret Recipe August Until December		Total	
		2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
Product Awareness													
	Name Brands	/	/	/	/	x	x	x	x	/	/		6
	House Brands	/	/	/	/	x	x	x	x	/	/		6
Promotional													
	Deal	/	/	/	/	/	x	/	x	/	/		8
	Chance	/	/	/	x	x	x	x	x	/	/		5
Seasonal													
	Holiday	x	/	/	/	/	/	/	x	/	/		8
	Season	/	/	x	x	/	/	x	x	x	/		5
	Event	/	/	x	x	x	x	x	x	/	/		4
Total		17	21	15	11	11	9	8	3	17	19		

There was a significant rise in sales revenue during the year of 2013 compared to the year of 2012, because there were no activities conducted over the Internet in the year of 2012. Thus, it infers that the programme launched by Starbucks provided significant impact to the spike in revenue, all thanks to enabling CI with the data obtained from the Internet. It is also observed that Facebook was linked to BStarbuck loyalty card, where reloads can be carried out via a hyperlink. In years of 2012 and 2013, according to annual report, sales revenue reported to have increased due to joint marketing campaign with other corporate partners (**Appendix I**). These findings show that the utilisation of Facebook has provided an avenue for the company to implement its marketing strategy. Therefore, it can be surmised that Starbucks had used Facebook to indirectly improve their marketing strategy and helped the company in increasing its customer engagement, and thus directly increasing its sales revenue.

However, Pizza Hut's Annual Report did not highlight the usage of social networking sites as a factor that increased the annual sales revenue. Alternatively, the Annual Report did highlight that it had organised "Santai Media Hiburan bersama Pizza Hut" in the year of 2013, and also supported the Newspaper by organising an event between The Star-Nie and Pizza Hut Malaysia (**Appendix F**). The events were posted in Facebook as a means of engagement with the public.

The sales revenue for Baskin Robbins, Big Apple & Donuts, and Secret Recipe could not be retrieved as the information were not available for public use. Thus, the author could not perform a correlation between the number of types of messaging and relative increase in the sales revenue. Since the information on sales and revenue are only available for Starbucks and Pizza Hut, this section would require further investigation.

4.3.2.9 Conclusion of Mixed Method

The research findings found that the quantitative analysis and literature review analysis for the first objective proved the statistical analysis of the Internet adoption survey that food and beverage companies do utilise the Internet. However, these companies have limited Facebook usage which could have been as a source of information for CI as a marketing strategy towards promoting their product.

Furthermore, on the second objective, from the five food and beverage companies case study, there are evidences of primary and secondary sources of information for CI that is used for marketing strategy. The quantitative analysis and literature review analysis mixed method, were able to prove there are marketing strategies behind Facebook usage.

Please see **Appendix C** for the information mapping analysis conducted on the Overarching Messages.

Table 4.19: Overarching Messages Categories and Subcategories

Categories	Subcategories
Brand awareness	Promotion Heritage Operations
Corporate social responsibility	Awareness Fundraisers
Customers service	Openings Outages Public Service Announcements (PSA)
Engagement	Assistance Community Likes Photos Video Polls Questions Appreciation Directional
Product Awareness	Name Brands House Brands
Promotional	Deal Chance
Seasonal	Holiday Season Event

CHAPTER 5: DISCUSSION AND CONCLUSION

5.1 Discussion

This section discusses the findings and the analysis carried out in the previous sections via survey and case study on Malaysian food and beverage companies.

5.1.1 Discussion on the Relationship between the Results of the Survey and the Case Study

This section discusses the interpretation from the Quantitative Analysis and the Literature Review analysis. The overview of the findings is shown in **Figure 5.1**.

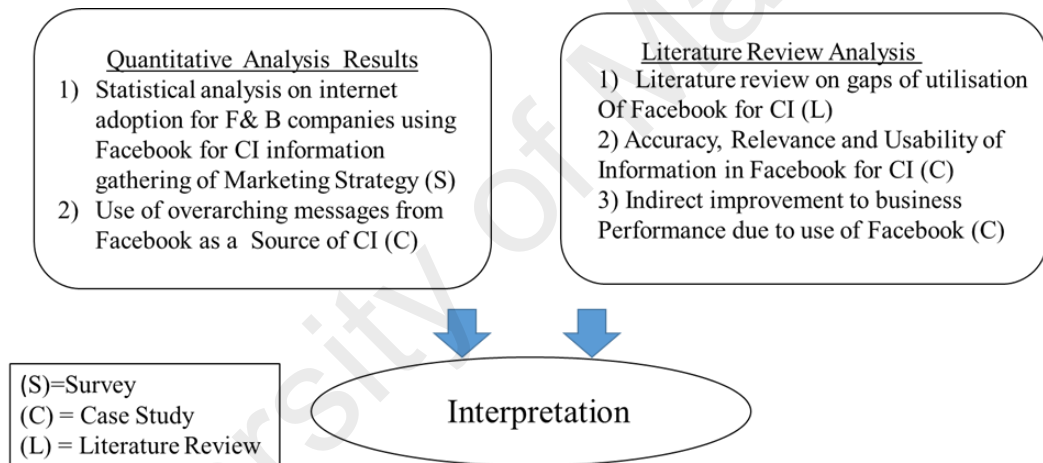


Figure 5.1: Interpretation of the Results

The discussion in this chapter will cover topics in the literature review, survey and case study. It also discusses the investigation into the gap analysis where there is limited research conducted on data collection of CI using Facebook.

Secondly, a survey on the Malaysian food and beverage companies attempted to determine the Internet adoption within that industry. The results from number of respondent is 87 which shows that Malaysian food and beverage companies use the Internet for business purposes. Among the perceived benefits, these companies would

experience growth in Sales, Better Customer Service, Increased Customer Satisfaction, and Effectiveness in collecting information (**Appendix A**) survey form. The statistical analysis on the regression testing shows that internet adoption and perceived benefits are significant, internet adoption and ways of using internet is significant, internet adoption and attitude towards internet is significant and internet adoption and concern regarding internet access is significant.

Lastly, a case study on the five food and beverage companies in Malaysia was conducted to determine the use of Facebook for CI in improving the business performance. The results from this case study demonstrated that the Internet is a prerequisite for the utilisation of Facebook, and that there is a relationship between the data from Facebook that can be used for CI which is based on the principles of Overarching Messages. The results also shows that the companies can utilise the information from the Overarching Messages as well as to utilise the information from a competitor's Overarching Messages to shape their marketing strategy.

However, the result outcome of the business performance from the utilisation of Facebook is somehow still weak, because the research is only limited to the availability of sales and revenue information from two companies. Hence, further detailed investigation is definitely an important criterion.

In this research, the quantitative analysis and literature review analysis mixed method are used firstly based on the outcome of the Internet adoption survey which provides statistical proof of food and beverage companies utilising the Internet, then searching the usage for Facebook by food and beverage companies in Malaysia as a source of information for CI that is used for marketing strategy. The second outcome derived from the Facebook case study will provide confirmation of how Facebook has

been used for the CI information gathering of marketing strategy. From the quantitative analysis and literature review analysis mixed method, the two outcomes formed a conclusion of CI information gathering for marketing strategies.

Table 5.1: Interpretation of CI Information Gathering for Marketing Strategy

Survey	Case Study	Mixed Method
<ul style="list-style-type: none"> • Survey questionnaire • Number of likes, share and comments from the Facebook case study • Overarching messages in the Facebook case study 	<ul style="list-style-type: none"> • Facebook pages case study • Bose’s criteria • Overarching messages 	<ul style="list-style-type: none"> • Examine survey questionnaire from quantitative and literature review perspective • Facebook pages quantitative data on overarching messaging and Bose Criteria • Overarching messaging literature review information on popular posts • Both quantitative and literature review analysis data types

In this research, the quantitative data is used to investigate the adoption of Facebook on perceived benefits and usage for Facebook by food and beverage companies in Malaysia as a source of information for CI that is used for marketing strategy. The quantitative data from the Financial Report and quantitative data from the annual reports are used to prove the strategy behind using the Facebook in the case study of five Food and Beverage Companies.

The overarching messaging, which is also represented by literature review information and quantitative data was used to prove the Bose Criteria on accuracy, usability and relevancy of five food and beverage companies within the research of the Facebook case study. In the case of the business performance of five food and beverage

companies' annual reports, quantitative data was used to confirm that the sales revenue of Pizza Hut and Starbucks had increased; which was partly due to the usage of Facebook for marketing strategy.

The quantitative analysis and literature review analysis mixed method on the overarching messages which was conducted in the Facebook case study, demonstrated the most popular messaging for food and beverage companies that should be used in Facebook, which is as an important component in marketing for Food and Beverage Companies.

These outcomes lead to the conclusion of CI information gathering for marketing strategies using mixed method.

5.2 Conclusion

In the present framework, based on the literature reviews, proposed methodology of survey and case study, and data analysis, specific conclusions can be derived. The high level conclusion is that Malaysian food and beverage companies will benefit by adopting the Internet, where Facebook will be a primary channel to collect intelligence to perform CI for marketing strategy.

In this research, we have presented some results based on utilising Internet for perceived benefits. The perceived benefits are that these food and beverage companies would experience growth in Sales, Better Customer Service, Increased Customer Satisfaction, and Effectiveness in collecting information from the Internet survey. It was also found that the food and beverage companies however, had limited experience in using the Facebook a source of information for CI that is used for marketing strategy on Facebook.

In order to support the high level conclusion, firstly, the resultant output of the statistical quantitative analysis that was performed on survey data collected from the Malaysian food and beverage companies had proven that all responses are valid, reliable, and internally consistent with $\alpha > 0.7$. The analysis also proved that majority of the companies that were surveyed actually adopted the Internet based on a perceived benefit that the Internet is a medium to promote products and services.

Secondly, the case study findings based on the sampling of the five companies demonstrated that Facebook was heavily utilised as a means to improve communications with their customers. Further investigation into the case study revealed that the information from Facebook is accurate, reliable and usable to conduct a CI marketing strategy on Facebook. Moreover, the quantitative analysis carried out on the Overarching Messages had shown that the information from Facebook is a source of intelligence that can be directly applied for a CI marketing strategy. Therefore, based on the quantitative analysis and literature review analysis mixed method, it was found that Malaysian food and beverage companies would benefit from the utilisation of the Internet, and particularly Facebook, for the CI, which can be used for marketing strategy.

Moreover, it can be interpreted that the results have shown that the Internet and Facebook is an important platform to implement their marketing strategy, as Facebook allows for better reach and engagement with consumers.

Finally, it can be interpreted that the results had unveiled that the Internet and Facebook are important sources of information for formulating marketing strategy, simply because Facebook opens up a wide space of audiences with better reach and higher potential of engagement with consumers. Therefore, the findings indicated that the Malaysian food and beverage companies would definitely benefit from threefold factors,

namely the adoption of the Internet, the use of the Facebook for data collection, and application of that information to carry out a CI for marketing strategy.

5.3 Limitations of the Study

The survey was conducted in the month of October, 2012. From this survey, only 33% of the respondents provided feedback and the data from these respondents were used for the general understanding on the Internet utilisation among food and beverage companies.

The respondents during HalFest however, did not actively use SNS during the time of the survey in 2012 and therefore had very little information that could be used. Refer to **Appendix L**. Hence, the five food and beverage companies that already had SNS presence were chosen for the second case study. These companies were also chosen as the research in this thesis would be able to link the use of Facebook for Competitive Intelligence and improve their performance.

The investigation is also limited to only five food and beverage companies' and furthermore is confined within Facebook as a source to generate the CI parameters. Only two of the five companies' financial reports are researched and analysed, i.e. Pizza Hut and Starbucks.

5.4 Recommendation

This study can be further improved by provisioning a set of guidelines for the Malaysian food and beverage companies to adopt during the implementation of a Facebook page. These guidelines would include, the must-have criteria when setting up a social media account for disseminating information and gaining customer insights, and timeliness of posting notices and promotions based on the seven overarching messages.

These guidelines can be extremely helpful for companies during the implementation phase as it would enable Malaysian food and beverage companies to efficiently utilise Facebook as a source for CI. Furthermore, from the survey analysis conducted in this study, the awareness among the companies in adopting the Internet seemed to be high, because the companies were well aware of the importance of having the Internet for business operation. A set of guidelines for the implementation of a Facebook page would be useful information for these companies.

5.5 Suggestion for Further Research

Below are the suggested studies within this field

1. To study the combination of Facebook, Internet of Things (IOT) and big data to discover more information about competitors;
2. To study big companies in Malaysia using Facebook to strategise their business in the context of CI;
3. To study which industries conduct Facebook training to assists people for marketing purposes in the context of CI and its impact to the industry.

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LIST OF PUBLICATIONS AND PAPERS PRESENTED

1. Musadek, B. F. M., Radzi, C. W. J. W. M., & Muhammad, A. Investigation of Factors that influence Small and Medium Enterprises Competitive Intelligence through Facebook.
2. Conference name- Ascent 2014 International Conferene, FTMS College Bukit Jalil, Kuala Lumpur

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