

The Use of Importance-performance Analysis (IPA) in Evaluating Web 2.0 Technologies in Malaysian Retail-chain Business

William Eng Yong Keong*

School of Business, Sunway University, No 5 Jalan Universiti, Bandar Sunway. 46150 Petaling Jaya, Selangor, Malaysia

*Corresponding author: william@sunway.edu.my

Abstract

The focus of this paper is to evaluate the Web 2.0 technologies. In this research, the Importance-Performance Analysis (IPA) grid was used to measure the Web 2.0 technologies from the Malaysian retail-chain businesses perspective. A list of eight different types of Web 2.0 technologies was identified from the related literature reviews. On a five point Likert scale, the survey enables the users to rate the relative importance of the each technology, followed by another technology performance rating. The purpose of the survey is not only measure the actual satisfaction level, but also to highlight important areas for improvements. The IPA, a two-dimensional grid, is broken into four categories: (1) Concentrate Here; (2) Keep Up the Good work; (3) Low Priority; and (4) Possible Overkill, to enable each of the technologies to be plotted into grid. It is a clear and powerful evaluation tool for Malaysian retail-chain businesses to find out what Web 2.0 technologies that are help the businesses and what Web 2.0 technologies that need to be improved, which require action immediately. The results are useful in identifying areas for strategic focus to help develop Malaysian retail-chain business strategy.

Keywords: Web 2.0 technologies; Importance-Performance Analysis (IPA); retail-chain; actual satisfaction level

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1.0 INTRODUCTION

Lately, many businesses have started to adopt a new generation of web technologies and applications such as blogs, Web 2.0 media, and social networking, commonly referred as Web 2.0. There is no universally agreed definition of Web 2.0 in the literature. The term Web 2.0 was coined by Dale Dougherty, vice-president of O'Reilly, Media Inc. The term became better known across the industry after the O'Reilly Media Web 2.0 conference in 2004. White and Pautis (2010) opined Web 2.0 help to enhance works more efficiently whereby businesses are now competing at a different level. There is a significant shift in Internet traffic due to the dramatic increase in the usage of Web 2.0. As of May 2013, Facebook had more than 665 million active users, and the average user had 130 friends (The Associated Press, 2013). In addition, Twitter had 200 million monthly active users (Fiegerman, 2012). In the business context, Harvard Business Review survey on nearly 2,100 companies worldwide, found more than 79% of companies were said to be pleased with the results of their investment in Web 2.0, and nearly three-quarters said their company plan to maintain or increase investments in Web 2.0 in future (Meghan, 2013). Prior researches about Web 2.0 have mainly focused on single Web 2.0 technology such as social networking, blogs or Wikis. These studies examined the adoption of Web 2.0 by end user as well as business organizations (Lorenzo-Romero, Constantinides & Alarcon-del-Amo, 2011; Nath, Sinha, Mukherjee & Dasgupta, 2010). With the study on single Web 2.0 technology may not be sufficient understand the overall perceptions of Web 2.0 adoption. In addition, none of the studies had identified users' perceived importance and satisfaction toward a plethora of Web 2.0 technologies being deployed by businesses. Moreover, the setting of this study was to determine Malaysian retail-chain businesses perceived importance and satisfaction on a plethora of Web 2.0 technologies currently adopted which could provide a better understanding on Web 2.0 adoption among retailers from Malaysia retail-chain businesses. In this paper, the usefulness of Importance-Performance Analysis (IPA) grid will be demonstrated in the evaluation of Web 2.0 technologies adoption.

2.0 THE USE OF WEB 2.0 TECHNOLOGIES BY RETAIL BUSINESSES

Retailing refers to activities involved in selling goods and services directly to final consumers for personal and non-business use (Armstrong & Kotler, 2003). In recent years, the specialist retail-chain stores have experienced rapid growth. The specialist retail-chain stores are a type of retail outlets that share a brand and central management. They usually have standardized business models and practices (Hayward, White, Fleek & MacIntyre, 1922). Retail-chain stores are starting to make a significant impact on the retail sector in Malaysia. The well-known retail-chain stores in Malaysia are Berjaya Singer and SenHeng Electric sell electrical goods and furniture, Popular book store, Parkson and Aeon departmental store. With a vast network of retail-chain outlets, these stores provide more than 60,000 job opportunities to Malaysians across the country. This number is expected to continue to expand (Tay, 2012). In order to reach more

customers, retail-chain businesses have opened more outlets at various locations in Malaysia. By increasing the number of outlets retail-chain businesses experienced pressures to meet certain budgetary goals as well as to pursue businesses' mission (Beckman & Herman, 1938). It is important for retail-chain businesses to develop and manage the relationship with the customers (Lori, 2013). Moreover, with the multiple locations of the business, the organization had found handling the employees extremely challenging. The collaboration between employees working together to achieve the organization's the targeted goal is critical for retail-chain businesses (Clark, 1933). With effective employees collaboration practices, organizations may keep employees stay productive and motivated. In addition to internal employees' collaboration, external coordination with suppliers is also important to ensure an efficient and effective supply chain. Retail-chain businesses with the multiple stores located throughout the country faced challenges on supply-chain activities in terms of streamline business process, reduce transactional and administrative cost in order to fulfill the customer's needs at the right time and right place (Shehzad, 2009). Retail-chain businesses must seek ways to reduce cost and increase revenues and profits through new collaborative channels to enhance customers' loyalty (Shehzad, 2009). Retail-chain businesses need to identify ways to enhance collaboration and knowledge sharing among employees, partners and customers in order to survive in today's turbulent business environment (Shehzad, 2009; Beckman & Herman, 1938; Lori, 2013). ComScore (2009) had revealed the top most visited web sites in Malaysia were social networking sites such as Facebook.com and Tweeter.com. Based on Socialbakers.com (2012), Facebook.com is very popular among Malaysian Internet users – 13.2 million users and ranked 18th in the world (SocialBakers.com, 2011). These statistics implied that Malaysians are active Web 2.0 users and moving towards developing a network community amongst the fast developed Asian countries. Hence, adopting Web 2.0 is crucial to retail-chain businesses where networking via Web 2.0 provides leverage and could revolutionize various business activities (Meghan, 2013). For instance, the Web 2.0 is being used for marketing, advertising, dissemination and gathering of information, helping managers and chief executives to enhance productivity and efficiency, corporate image, and knowledge management (White & Pautxis, 2010).

The seven Web 2.0 tools commonly used by business organization including blogs, instant messaging, Real Simple Syndication (RSS), web 2.0 media, voice/ video media, forum, social networking and wikis.

2.1 Blogs

Blogs are the contraction of the term “Weblog” which was created by Jorn Barger in 1997, arising from the amalgamation of two words “web” and “log” (Kaiser, Muller-Seitz, Lopes, & Pinae-Cunha, 2007). A blog is a site where a creator posts content and users can add their comments. A blog can be a one-way mechanism to simply distribute information to an audience. Queensland government of Australia (2013) had identified the benefits of using blogs for business organizations. The benefits of blogging for business including reaching new customers, developing brand or ‘personality’, gathering feedback, reviews and testimonials, responding to and managing complaints (Queensland Government of Australia, 2013). There are several types of organizational blog used in business including employee blogs; group blogs; executive blogs; promotional blogs and newsletter blogs (Lee, Park, & Hwang, 2008).

2.2 Instant Messaging

Instant messaging (IM) is a form of communication over the Internet, which offers an instantaneous transmission of text-based and/or voice-based messages from sender to receiver such as Yahoo Messenger, Microsoft IM and Google Gmail package. Business organization make use of internal instant messaging for improving communication with off-site employees, including telecommunicates, and reducing e-mail messages. In addition, collaboration has allowed employees to come together and share instantly (White & Pautxis, 2010). IM is continuing to growth in popularity, with both consumers and corporate users. In 2012, the number of worldwide IM accounts will total over 2.7 billion. This figure is expected to grow at an average annual rate of 6% over the next four years, and reach 3.4 billion by year-end 2016 (Radicati, 2012).

2.3 Voice/ Video Media

Voice/ video media enables collaborative efforts, as many people can share in discussion using web camera and microphone. The popular voice/ video media include Skype, Google Talk and Microsoft LiveMeeting. All these applications allow phone and video conferencing via Internet Protocol network. Development of voice/ video media started in 2004, the introduction of mass-market VoIP services that utilize broadband Internet access, by which subscribers place and receive telephone calls in much the same manner as they would via the public switched telephone network (PSTN).

2.4 Forums

The American Marketing Association describes forums as an online community where visitors may read and post topics of common interest. Forums are unlike blogs because anyone can start a discussion, not just blogger. Moreover, forums' users cannot edit or delete messages. Generally, anybody can browse the forum but, only member is able to add content. Members can select their own user name, signature and avatars. In the context of business forum, there are many forum related to business. For example, Malaysia Global Business Forum is intended to serve as a resource to support and assist Malaysian businesses. Moreover, the forum gathers global industry experts, leaders and specialists to share their views, knowledge and expertise to stimulate the growth and development of global business with Malaysia.

2.5 Wikis

Wikis is a Hawaiian term for “quick” or “super fast” and was coined by Howard Cunningham to describe the new generation website that anyone can edit (McKiernan, 2005). Wikis also allow to accumulate knowledge regarding a specific subject (e.g., developing a new product) and tap the employee's knowledge of that subject. There is also a heuristic value in that employees who were not previously cast

in the role of product development are often the wiki's most prolific and valuable contributors (Tim, 2005). Wikis commonly found over corporate intranet. Examples of companies who use wikis on their intranets include, Daimler-Chrysler, Disney, Microsoft, Motorola, Sun Microsystems, Kodak, Dresdner Kleinwort Wasserstein Bank, and Ziff Davis Publishing (Tim, 2005).

2.6 Social Networking

Web 2.0 has received much attention from a social networking perspective and the websites such as Facebook and MySpace are gaining enormous traction. Social networking refers to building online communities of people who share interests and/ or activities, or who are interested in exploring the interests and activities of others. Users of these social networking technologies are learning new ways to collaborate and communicate. According to Garside and Rushe (2013) Facebook lead the way with more than 1.11 billion monthly active users and mobile monthly active users were 751 million. The social networking components not only for socializing on the Internet but also support the communication and collaboration of projects specific information, making it accessible, editable and distributed among all team members which are conducive to global business (White & Pauxtis, 2010).

2.7 Web 2.0 Media

Web 2.0 media might be defined as way Web property that provides user-generated media content, and promotes tagging, rating, commenting and other interactions among users and their media contribution (White & Pauxtis, 2010). One of the technologies for Web 2.0 media is podcasting. The technology for podcasting developed initially from a desire to have downloadable audio and video content delivered automatically to a user's digital media player like Apple's iPod or any other MP3 or MP4 player. Podcasts in corporations can be used for both internal and external communications. Internal communications may include employee communications, training, morale boosting projects, and other internal communications messages. For external communications, companies may adopt consumer-focused podcasts (similar to radio shows) to provide direct product advertising or education or to build consumer confidence in a brand.

2.8 Real Simple Syndication (RSS)

Real Simple Syndication (RSS) is used to share news, data exchange and web contents. RSS allows potential users to see some of website's content without them having to visit it directly. O' Reilly (2005) highlights that RSS is the most significant advance in web site architecture as it allows not just linking to a page but actually subscribing to it. According to MarketingSherpa (2006), at least 75 million consumers and businesses are using RSS feeds in the United State (U.S.) and the United Kingdom (U.K.) in 2006. Microsoft SharePoint is one of the popular applications that provide RSS feed functionality on items such as content, discussion forums, workflows, wikis and blogs. This is particular relevance to the collaboration solution for retail-chain businesses where it would be beneficial if the retail-chain stores received the updates from retail-chain headquarter as the news and changes.

■3.0 THE IMPORTANCE-PERFORMANCE ANALYSIS MODEL

The analysis of this study was the Importance-Performance Analysis (IPA). The IPA was introduced by Martilla and James (1977) has shown the capability to provide valuable information for both satisfaction measurement and prescribe the prioritization of attributes for improvement and it can also provide guidance for efficient allocation of resources. IPA is a simple evaluation technique was used by practitioners and academics to study in marketing context such as customers' level of satisfaction with the attributes is mainly derived from their expectations and judgment of the product's or service's performance (Martilla & James, 1977). In addition, IPA has become a popular managerial tool and broadly used to identify the strengths and weaknesses of brands, products, services, and retail establishments (Chapman, 1993).

The importance-performance matrix is divided into four quadrants, distinguish between low and high importance and between low and high performance (i.e. satisfaction). To complete the matrix, the two mean values of each variable related to importance and satisfaction level of Web 2.0 technologies adoption were calculated. Then, a vertical and a horizontal line representing the overall means of importance and satisfaction level of those variables to form a matrix. The matrix was divided into four quadrants (Figure 1) namely (Chu & Choi, 2000):

- Concentrate Here (Quadrant I): Attributes are perceived to be very important to respondents, but performance levels are fairly low. This sends a direct message that improvement efforts should concentrate here.
- Keep up the Good Work (Quadrant II): Attributes are perceived to be very important to respondents, and at the same time, the organization seems to have high levels of performance on these activities.
- Low Priority (Quadrant III): Attributes are with low importance and low performance. Although performance levels may be low in this cell, organizations should not be overly concerned since the attributes in the cell is not perceived to be very important. Limited resources should be expended on this low priority cell.
- Possible Overkill (Quadrant IV): This cell contains attributes of low importance, but relatively high performance. Respondents are satisfied with the performance of the organizations, but organizations should consider present efforts on the attributes of this cell as being over-utilized.

Finally, each of attributes was located on the matrix as a form of point.

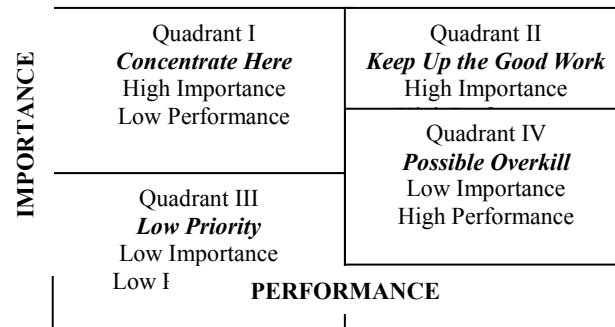


Figure 1 Importance-Performance Analysis (IPA) Grid

4.0 METHODS

4.1 Participants and Procedure

This research project used a survey method to measure the perception of Malaysian retail-chain businesses toward Web 2.0 tools. The questionnaire survey was conducted in 2012. The sampling frame was drawn from Malaysian Retail-Chain Association (MRCA) and Malaysia Retailer Association (MRA) listed members in Malaysia. The MRCA and MRA act as the excellent avenue for retail businesses to engage networking and exchanging ideas, share resources and to promote the healthy growth of the retail industry in Malaysia and abroad. MRCA is one of the largest and more influential retail associations in Malaysia. The association is acknowledged as one of the government's key driving force in shaping Malaysia's retail industry. MRCA and MRA have more than 300 established members from diverse retail sectors and over 12,000 stores throughout Malaysia. Majority of the member of MRCA and MRA businesses' headquarters are located at the Klang Valley area in Malaysia. Many of the MRCA and MRA members are market leaders that have gained a strong foothold in their respective industries. In recent years, the specialist retail-chain stores have experienced rapid growth. The specialist retail-chain stores are a type of retail outlets that share a brand and central management. They usually have standardized business models and practices (Hayward, White, Fleek & MacIntyre, 1922). With a vast network of retail-chain outlets, these stores provide more than 15,000 job opportunities to Malaysians across the country. This number is expected to continue to expand (Tay, 2012). Retail-chain stores are starting to make a significant impact on the retail sector in Malaysia. The population under study consists of 423 managers representing the retail-chain industries in Malaysia. Out of 423 questionnaires distributed, 185 were collected and returned to the researcher. This consequently provided an effective overall response rate of 43.74 per cent.

The database comprise various sectors including food and beverage, education, departmental store, hypermarket, consumer electronics, pharmaceuticals, convenience retail store, clothing, beauty and health, home furnishing, jewelry, lighting store, and services organizations. Questionnaire was targeted either IT manager, IT executive, or general manager from each retail-chain company was the respondents for this study. Depending on the institution, alternative titles are used to represent this position. They were selected to participate in this study because they were responsible for the IT and computer systems in their respective businesses. General managers were also participate in this study because they were involved in with driving the analysis and re-engineering of existing business processes, identifying and developing the capability to use new tools, reshaping the enterprise's physical infrastructure and network access, and with identifying and exploiting the enterprise's knowledge resources.

5.0 RESULT AND DISCUSSION

5.1 Differences between Two Mean

Using statistical application, based on the p-value for the two samples t-test and the 95% confidence interval, there is no difference in mean rating of importance and satisfaction at 5% significance level on instant messaging, blogs, social networking, forum, virtual team, and voice/video media.

5.2 Perceived Importance and Satisfaction Level of Web 2.0 Technologies

In order to address the perceived importance and satisfaction level of Web 2.0 technologies, means and standard deviation of respondents, perceived importance and satisfaction on Web 2.0 technologies were computed. Then, the mean scores of the eight types of Web 2.0 technologies were plotted on the IPA grid according to their perceived importance and the satisfaction levels. Cross-hairs (vertical and horizontal lines), using mean values of the perceived importance and performance parts of the eight type of Web 2.0 tools, were generated to separate the two attributes into four identifiable quadrants.

Table 1 Mean Ratings of Perceived Importance Level of Web 2.0 Technologies

Web 2.0 Technologies	Importance		
	Mean	SD	Rank
Instant Messaging	2.81	0.86	5
Web 2.0 Media	4.00	0.70	3
Wikis	-NA-	-NA-	-NA-
RSS	2.13	0.67	7
Blogs	4.13	0.58	1
Social Networking	4.05	0.70	2
Forum	3.87	0.39	4
Voice/Video Media	2.77	0.87	6
Grand Mean	3.39		

Scale 1: 1=Not at all important; 2=Little important; 3=Neutral; 4=Important; 5=Very important; -NA-= Not applicable

Table 2 Mean Ratings of Perceived Satisfaction Level of Web 2.0 Technologies

Web 2.0 Technologies	Satisfaction		
	Mean	SD	Rank
Instant Messaging	3.92	0.53	3
Web 2.0 Media	2.24	0.82	6
Wikis	-NA-	-NA-	-NA-
RSS	2.18	0.66	7
Blogs	2.28	0.76	5
Social Networking	4.11	0.58	2
Forum	3.85	0.40	4
Voice/Video Media	4.14	0.65	1
Grand Mean	3.25		

Scale: 1=Not at all satisfied; 2=Little satisfied; 3=Neutral; 4=Satisfied; 5=Very satisfied; -NA-= Not applicable

5.3 Perceived Importance of Web 2.0 Technologies

Results presented on Table 1 are based on the rankings of mean scores. Four types of Web 2.0 technologies currently adopted in the retail-chain businesses had a mean score higher than 3.0, ranging from 3.87 to 4.13. The standard deviations of those attributes ranged from 0.39 to 0.87 and did not show a large variation among the respondents. The top three most important technologies were “Blogs” (4.13), “Social Networking” (4.05), and “Web 2.0 Media” (4.00), indicating the importance of these attributes. “Instant Messaging” (2.81), “Voice/ Video Media” (2.77) and “RSS” (2.13) were perceived as the least important attributes.

5.4 Perceived Satisfaction of Web 2.0 Technologies

The mean ratings of the perceived satisfaction of the Web 2.0 technologies were also calculated. The results were shown in Table 2, based on the rankings of mean scores. It was shown that the mean scores for all eight Web 2.0 technologies currently adopted in the retail-chain businesses, ranged from the highest mean satisfaction score of 4.14 to the lowest of 2.18. The range of the standard deviation of the Web 2.0 technologies attributes was from 0.40 to 0.82. Participating retail-chain businesses gave top ratings to “Voice/ Video Media” (4.14), “social networking” (4.14), and “Instant Messaging” (3.92). In contrast, the three lowest ratings perceived by the businesses were “RSS” (2.18), “Web 2.0 Media” (3.36), and “Blogs” (2.28).

5.5 Importance-Performance Analysis (IPA)

Importance-Performance Analysis (IPA) was applied to compare the importance and the satisfaction of Web 2.0 technologies as perceived by retail-chain businesses. The mean ratings of the perceived importance and satisfaction of the eight Web 2.0 technologies were calculated (see Table 1 & 2). The results of the analysis were plotted in the IPA grid (in Figure 2). The grand means for importance and satisfaction level were used for the placement of the axes on the matrix.

In the Figure 2, X-axis represents the perception of satisfaction (i.e., performance) scores relating to the retail-chain businesses’ experience of Web 2.0 technologies, which are currently adopted in their organizations. The Y-axis represents the perception of importance scores of the same technology attributes. The four quadrants (Concentrate Here, Keep up the Good Work, Low Priority, and Possible Overkill) are constructed based on the mean scores of the importance and satisfaction ratings. The mean importance rating for the pooled data (i.e., grand mean) was 3.39 and the mean satisfaction rating was 3.25. As illustrated in Figure 4.2, 2 attributes were identified in the Concentrate Here quadrant, 2 in the Keep up the Good Work quadrant, 1 in the Low Priority, and 2 in the Possible Overkill quadrant.

5.6 Concentrate here quadrant

The attributes loaded in the concentrate here quadrant were “Blogs” and “Web 2.0 Media”. These technologies were evaluated above average for importance but below average on satisfaction. These technologies, particularly used for sales and marketing operation, and customer services were located in the quadrant.

5.7 Keep up the good work quadrant

The keep up the good work quadrant captured two technologies, including, “Social Networking” and “Forum”. These items were rated above average for both importance and satisfaction level. These results convey the message that in general, retail-chain businesses have performed well in the above respects.

5.8 Low priority quadrant

Among eight Web 2.0 technologies used for the study, “RSS” was identified in the low priority quadrant. This was evaluated below average for both importance and satisfaction. The results indicated that even if the satisfaction level was below average, efforts should not be overly concentrated on this technology, as attributes identified here were rated as low importance by the respondents, compared with other technology attributes.

5.9 Possible overkill quadrant

There were two technologies “Instant Messaging” and “Voice/Video Media” in this quadrant. This implied that the attributes were evaluated as lower than the average of the importance level, and that the satisfaction level of the technology was higher than the average.

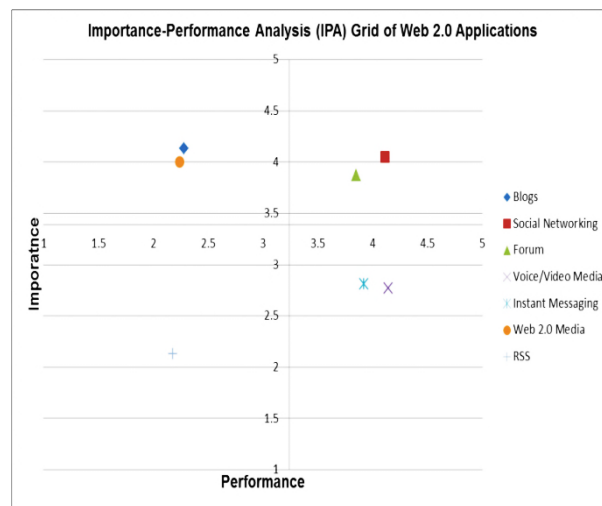


Figure 2 IPA grid of Web 2.0 Applications

The research objective of this study was to determine Malaysian retail-chain business perceived importance and satisfaction on Web 2.0 technologies currently adopted. Based on the eight Web 2.0 technologies, the top three most important technologies were blogs, social networking and Web 2.0 media. Similarly, the top three most satisfied Web 2.0 technologies perceived by retail-chain businesses were voice/ video media, social networking and instant messaging. The grand mean was 3.61 for importance and 3.42 for satisfaction ratings. Overall importance values close with satisfaction values of the total eight technologies. This indicated that, overall, retail-chain businesses are satisfied with the Web 2.0 because it enhanced job-related tasks. An IPA grid illustrated that two Web 2.0 technologies was located in the Concentrate Here quadrant, two Web 2.0 technologies were located in the Keep up the Good Work quadrant, one Web 2.0 technology in Low Priority quadrant, and two Web 2.0 technologies were in the Possible Overkill quadrant.

Concentrate Here Quadrant had captured two Web 2.0 technologies (Blogs and Web 2.0 Media). These technologies were core functions of retail-chain businesses to capture attention from the customers on their company products and services. Retail-chain businesses could be relies heavily on these technologies in their daily marketing activities such as advertising and promoting products and services. Their expectations of these technologies can be relatively high. Therefore, it is suggested that continuous efforts and special attention should be directed and concentrated on the enhancement of these applications to accomplish a higher level of satisfaction in utilizing them for marketing related tasks.

Secondly, the Keep up the Good Work Quadrant consists of two Web 2.0 technologies including social networking and forum. These Web 2.0 technologies were considered satisfactorily in meeting retail-chain businesses’ needs in relation to personal communication, customers’ interaction, and business conferences. Resources should be directed to improving and maintaining the quality of those essential Web 2.0 technologies to ensure daily communication activities and then, to be competitive against others retails business establishments (Kim, 2004).

Third, the Low Priority Quadrant identified only RSS Web 2.0 technology. Retail-chain businesses were not satisfied and they perceived RSS to be less important when compared with other Web 2.0 technologies. RSS was perceived as least important by the retail-chain businesses. The reasons could be RSS did not benefit them. This implied that relatively fewer efforts and resources should be expended in the low priority quadrant (Kim, 2004).

The fourth quadrant, Possible Overkill Quadrant, captured two Web 2.0 technologies namely instant messaging and Voice/ Video Media. This quadrant indicated that they were rated as lower than the average of importance, and that the satisfaction level was higher than average. Instant messaging and Voice/Video Media (e.g. Microsoft Messaging, Skype, and Video Phone Calls) are Web 2.0 technologies

for collaboration to share of information and communicate among users. Since these technologies identified in the quadrant were considered the most standardized applications for daily tasks, which are normally accompanied by typical hardware or operating system, efforts should be towards maintaining a high level of standards without overspending resources in this area. They tend to be relatively highly standardized across retail-chain organizations, not showing a strong variation of their quality and performance. Therefore, in order to take advantages of these technologies in improving the process of job-related tasks, effort should be focused towards maintaining quality without over-utilizing resources in the area, while maintaining the current satisfaction level.

6.0 CONCLUSION

This study has provided empirical evidence and knowledge on the perception of Web 2.0 in Malaysian retail-chain businesses. The findings from this study had provide information for Malaysian retail businesses who plan to implement the different types of Web 2.0 by emphasizing the relevant criteria at each phase necessary for a successful adoption process. In addition, it is hopeful that this study would be the catalyst for more studies in this area and the recommendations given can be implemented by IT vendors to increase the current number of Web 2.0 users in Malaysia.

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