Improving Digital Marketing by Using Multi Social Networks and SEO Methods

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ABSTRACT
Rapidly increasing of users and websites on the internet is caused by digital market competition. One result of the competition is the overload information. So, mostly websites are developed to assist the users to find their interested information. The research objectives are to analyze the increasing number of users, marketing channels, and the websites ranking on the main search engines. The multi social network and search engine optimization (SEO) techniques were applied to improve the digital marketing websites. Three websites with the same content were developed to improve the performance of digital marketing. The SEO technique was applied to increase the websites ranking on the search engines. In the dataset, the five popular keywords that analyze from the keyword analysis tool were selected. Facebook, Twitter, and Google Plus are the multi social networks. The google analytic is the tool to evaluate the search performance. The results showed that the websites available the multi social networks performed effectively more than website with single social network in case of the increasing the number of users, incoming links, and ranking of the keywords.

Keywords: Social Network, Web-Service, Search Engine Optimize, Digital Marketing

Introduction
To increase the channels and new users, the search engine marketing and social networks are applied to improve the digital marketing. There are two types of the search engine marketing, including the pay per click (PPC) and search engine optimization (SEO) (Yunfeng, 2010; Li-Hsing, et al., 2010). The objectives of the study are to reduce the marketing cost, increase new users, and ranking. So, the SEO is applied to improve the websites (Siriprasoetsin and Marung, 2013). The process of SEO broadly consists of web structure, page rank value, and links optimization (Wu, 2011). The multi social networks are the objectives of the increasing the new users, digital marketing channels, and give more information to available users. Website structure optimization consists of the incoming and outgoing links, global and local links, title, description page, ALT
image, and adding text (Wu, 2011; Zhao, et al., 2009; Hui, et al., 2012). For google search engine, the page rank value is the key to rank website (Zhao, et al., 2009). It is calculated from incoming and outgoing links (Shi, et al., 2010; Yunfeng, 2010). To improve the links optimization, the multi social networks include Facebook, Twitter, Google+, and YouTube for incoming links. The social network is web-service that allow users to create a public profile, share information between groups (Kabbany, et al., 2011; Handayani and Lisdianingrum, 2011). Hence, most business applied the social networks in their websites. In this research, three websites that are namely, ibuyubuys.com (IB), mytopserv.com (MT), and kunnok.com (KN), are developed for evaluating the system performance. To evaluate the performance of system, google analysis is the tool. (Siriprasoetsin and Marung, 2013). The number of visits and ranking were applied to evaluate the system. (Li-Hsing, et al., 2010). Four keywords were selected from google trend. The google trend is the tool to forecast the business trend. In this paper, there are four sections. In the first section, introduction and reviews are described. In the second section, the SEO, social network and evaluation techniques are described. In the third section, it describes experiment results. In the final section, the conclusion is drawn.

Methods

Search Engine Optimization (SEO)

The SEO is one of the search engine marketing to improve the website for ranking (Yunfeng, 2010). There are two types of the search engine marketing that are the PPC and SEO. In the first type, owner website must pay money to each search engine website. After payment, the website is displayed on the top or button of the first page. In the second type, developer must develops the website by using the standard and rules of the SEO method. The standard and rules of the SEO method consist of the web structure, links optimization, and page rank value. In the web structure, it consists of the title, description page, ALT image, adding text, and links optimization (Wu, 2011; Zhao et al., 2009; Hui, et al., 2012). The title, description page, ALT image, and adding text to file name have to be included with the keywords (Siriprasoetsin and Marung, 2013). The links optimization should be developed both of the global and local navigations. In the page rank value, it is important for the crawling robot of google web search engine (Hui, et al., 2012). The page rank value is calculated by using incoming and outgoing links. A website with the high value should be the high ranking page. Calculating the page rank value is given by

$$PRA(W) = (1 - dam) + dam \sum_{i}^{NP(CP_i)} \frac{PRA(CP_i)}{NP(CP_i)}.$$  

(1)
The page rank value of the home page of the website is \( PRA(W) \). \( dam \) is damping coefficient. \( n \) is the web pages number that link to page \( W \). \( PRA(CP_i) \) is the page rank value of the collection pages that link to the page \( W \). Page \( i \)th that link to \( W \) page is defined as \( CP_i \). \( NP \) is number of the page \( CP_i \) that link to other websites. Therefore, the websites with high ranking have the high opportunity to be viewed by users. So, many creator’s websites have tried to advertise their websites by using the search engine optimization method. Therefore, a website should be improved by using the standard and rules of the search engine.

**Social Networks**

The social networks are developed in the e-commerce, e-market, and digital marketing (Kabbany, et al., 2011; Handayani and Lisdianingrum, 2011). The social networks allow users (1) creating a public profile (2) connecting and sharing their information to other users (3) accessing information’s neighborhoods (Handayani and Lisdianingrum, 2011). There are two types of the social network. The first type is the private social network and the second type is the public social network. Figure 8 shows the social network framework in this research. There are two ways to connect the information between the website and the social network.

![Social Networks Framework](image)

**Figure 8. Social Networks Framework.**

Social network\(_n\) is the \( i \)th social network. For example, the social network\(_1\) is Facebook. To evaluate the performance of the social networks, the page rank and incoming were applied. In the research, the two ways communication technique is idea. The Facebook, Twitter, YouTube, and Google Plus are the multi social networks in this research. All content in the multi social network included with the information of the websites.
Experiment Results

Experimental Overview

Three websites with the same content were developed for testing. The IB and MT websites included the multi social networks. Facebook, Twitter, YouTube, and Google+ are called the multi social networks. The KN website included the single social networks, Facebook. Three websites were developed by using the SEO and social network techniques. Four keywords in English and Thai languages were selected by using the google trend tool. The page rank and number of visitors are the key performance in this research. The page rank performance were evaluated by the main search engine website including Google, Yahoo, and Bing. The number of visitors was collected by using the google analytics tool.

Experiment Results of the Search Engine Optimization

The experiment results of the page ranking are shown in Table 2. These four keywords are used to evaluate the performance of page rank. The keywords were selected by using the google trend. The google trend is tool to forecast the business trend. Key_{1,2} are the keywords in English language. Key_{2,4} are the keywords in Thai language. In Table 2, the experiment results are shown that the websites including with the multi social networks appeared at the first page on the main search engine websites performed better than the website including the single social network.

Table 2

<table>
<thead>
<tr>
<th></th>
<th>Google</th>
<th>Yahoo</th>
<th>Bing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IB</td>
<td>MT</td>
<td>KN</td>
</tr>
<tr>
<td>Key_1</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Key_2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Key_3</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Key_4</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

IB, MT, and KN are initial name of ibuyubuys.com, mytopserv.com, and kunnok.com, respectively. “Yes” is that Key_n appeared on the first page of the search engine website. For example, Key_1 of the MT appeared on the first page of the Google. Figure 9, Figure 10, and Figure 11 are shown the sessions of IB, MT, and KN. The experiment results are shown that the number of sessions in IB and MT have the sessions more than KN. The experiment results also are shown that the websites including the multi social networks performed more effectively. Increasing the incoming links from the multi social networks marked the page rank value. However,
some keywords were shown on the search engine website when the websites that were designed with the standard and rules of the SEO.

Figure 9. The Number of Sessions in kunnok.com.

Figure 10. The Number of Sessions in mytopserv.com.

Figure 11. The Number of Sessions in ibuyubuys.com.
To reduce the marketing cost, increase new users, and ranking, the SEO and multi social network were applied to improve the performance of the digital marketing (websites). There are four keywords included with Thai and English languages. Three websites were developed with the same content and keywords. As the results, we found that the websites included with the multi social networks correlate with the rank of keywords as shown in Table 1. The IB and MT websites included the multi social networks and the KN website included the social network. The results show that the keywords are in the included multi social networks websites were more appeared in the first page of the main search engine websites. The limitations of study are the websites, the social networks, and keywords were limited with four pages, networks, and keywords, respectively. In the business, we recommend the included public social networks in the websites as possible.

**Conclusion**

To increase the number of customers, advertising, marketing channels, giving more information to customers, and ranking page, the SEO and social networks included the Facebook, YouTube, Twitter, and Google+ were used. Three websites with the same content were developed to evaluate the performance namely, ibuyubuys.com, mytopserv.com, and kunnok.com. For testing, there are four keywords that were selected by google trend. The multi social networks were integrated into the ibuyubuys.com and mytoserv.com. Each social network included the websites information. The single social network was integrated into the kunnok.com. To evaluate the experiment results, the google analytic tool was applied. The page rank and number of visitors were used to evaluate the performance websites. The experiment results clearly show that the websites that included the multi social networks effectively performed better than the website that was included the single social network.

**REFERENCES**


