

**Factors Influence Ongoing Flow of Customers to E-Commerce
Website and Impact on Firm Performance: Web Hosting
Industry**

Yu Shew Ling

Research report submitted in partial fulfillment of the requirements for degree
of Masters of Business Administration

June 2008

ACKNOWLEDGEMENTS

First and foremost, my sincere gratitude to my research supervisor, Dr. Noornina Dahlan, who was always willing to spare a part of her time to guide and gave me her invaluable advice throughout this research.

Never forget to thank all the respondents who have participated in answering the online survey. I wish to thank my company, Comdev Software Sdn. Bhd. for its courtesy to share the Web server for me to publish the questionnaire form to the Website at <http://mba.comdev.com/survey.php>.

A special note of gratitude for my MBA colleagues, Poon Howe, Wai Kin, for their guidance on this thesis.

My deepest gratitude to my family members and house mate, who have given me moral supports and encouragements throughout the course of this study.

Last but not least, my genuine compliment to all the lecturers in the MBA program of USM. My special thanks to all those who have been directly or indirectly involved in making this project a success.

Shew Ling

TABLE OF CONTENTS

| | <u>Page</u> |
|--|-------------|
| ACKNOWLEDGEMENTS | i |
| TABLE OF CONTENTS | ii |
| LIST OF TABLE | vi |
| LIST OF FIGURES | vii |
| ABSTRAK | viii |
| ABSTRACT | ix |
| | |
| Chapter 1: INTRODUCTION | |
| 1.1 Introduction | 1 |
| 1.2 Problem Statement | 2 |
| 1.3 Research Objectives | 4 |
| 1.4 Research Questions | 4 |
| 1.5 Definition of Key Terms | 5 |
| 1.6 Significance of Study | 7 |
| 1.7 Summary and Organization of Remaining Chapters | 8 |
| | |
| Chapter 2: LITERATURE REVIEW | |
| 2.1 Introduction | 9 |
| 2.2 Literature Review | 9 |
| 2.2.1 <i>Search Engine Optimization (SEO)</i> | 9 |
| 2.2.2 <i>Affiliate Networks</i> | 11 |
| 2.2.3 <i>Word-of-Mouth (WOM)</i> | 13 |
| 2.2.4 <i>Website Stickiness</i> | 14 |
| 2.2.5 <i>Website Traffic</i> | 17 |
| 2.2.6 <i>Firm Performance</i> | 19 |
| 2.3 Theory of Diffusion of Innovation | 19 |
| 2.4 Theoretical Framework | 21 |
| 2.5 Hypotheses Development | 22 |
| 2.5.1 <i>SEO as a driver of Website traffic</i> | 22 |
| 2.5.2 <i>Affiliate Networks as a Driver of Website Traffic</i> | 23 |
| 2.5.3 <i>WOM as a Driver of Website Traffic</i> | 24 |

| | | | |
|-------------------|-------|---|----|
| | 2.5.4 | <i>Website Stickiness as Moderating Effect On Website Traffic</i> | 25 |
| | 2.5.5 | <i>The Relationship Between Website Traffic And Firm Performance</i> | 26 |
| | 2.6 | Summary | 27 |
| Chapter 3: | | METHODOLOGY | |
| | 3.1 | Introduction | 29 |
| | 3.2 | Research Design | 29 |
| | 3.3 | Sample and Data Collection | 30 |
| | 3.4 | Online Survey | 30 |
| | 3.5 | Measures | 32 |
| | 3.6 | Data Analyses | 34 |
| | 3.6.1 | <i>Reliability Testing</i> | 34 |
| | 3.6.2 | <i>t-Test</i> | 34 |
| | 3.6.3 | <i>Correlation Analysis</i> | 35 |
| | 3.6.4 | <i>Regression Analysis</i> | 35 |
| | 3.7 | Summary | 35 |
| Chapter 4: | | RESULTS | |
| | 4.1 | Introduction | 36 |
| | 4.2 | Survey Results | 36 |
| | 4.3 | Profile of Respondents in the Survey | 37 |
| | 4.3.1 | <i>Characteristic of Sample Respondents</i> | 35 |
| | 4.3.2 | <i>Listing of Promotion Strategies Used by the Web Hosts</i> | 39 |
| | 4.4 | Reliability and Validity of the Scales | 40 |
| | 4.5 | Correlations Analysis | 40 |
| | 4.6 | Regression Analysis | 41 |
| | 4.6.1 | <i>Influence of Website Traffic on Firm Performance</i> | 42 |
| | 4.6.2 | <i>Influence of Promotion Strategies on Website Traffic Using Website Stickiness as the Moderator</i> | 43 |
| | 4.6.3 | <i>Interaction Effects between Moderator and Independent Variables</i> | 45 |

| | | |
|-----|-----------------------|----|
| 4.7 | Collinearity Analysis | 47 |
| 4.8 | Summary | 48 |

Chapter 5: DISCUSSION AND CONCLUSION

| | | |
|-------|---|----|
| 5.1 | Introduction | 49 |
| 5.2 | Findings and Discussions | 49 |
| 5.2.1 | <i>Critical Factors of Website Traffic</i> | 50 |
| 5.2.2 | <i>Impact of Affiliate Networks on Website Traffic</i> | 52 |
| 5.2.3 | <i>Impact of Moderating Effect on the Relationship between Promotion Strategies and Website Traffic</i> | 51 |
| 5.2.4 | <i>Impact of Website Traffic on Firm Performance</i> | 52 |
| 5.3 | Implications of the Study | 52 |
| 5.3.1 | <i>Search Engine Optimization (SEO)</i> | 52 |
| 5.3.2 | <i>Affiliate Networks</i> | 53 |
| 5.3.3 | <i>Website Stickiness</i> | 53 |
| 5.3.4 | <i>Website Traffic</i> | 54 |
| 5.4 | Future Research | 54 |
| 5.5 | Limitations | 55 |
| 5.6 | Conclusion | 56 |

| | | |
|-------------------|---|----|
| REFERENCES | | 57 |
| APPENDICES | | |
| Appendix A | Letters and Questionnaires | 60 |
| | A1 Cover Letter and Questionnaire | 61 |
| Appendix B | Reliability Statistic (Cronbach's Alpha Scale) | 64 |
| | B1 Search Engine Optimization Scale | 64 |
| | B2 Affiliate Networks Scale | 64 |
| | B3 Word-of-Mouth Scale | 64 |
| | B4 Website Stickiness Scale | 64 |
| | B5 Website Traffic Scale | 65 |
| | B6 Firm Performance Scale | 65 |
| Appendix C | Descriptive Statistic (Std. Dev., Mean, Max, Min) | 66 |
| | C1 Search Engine Optimization | 66 |
| | C2 Affiliate Networks | 66 |
| | C3 Word-of-Mouth | 66 |
| | C4 Website Stickiness | 66 |
| | C5 Website Traffic | 67 |
| | C6 Firm Performance | 67 |
| Appendix D | Regression Results | |
| | D1 Regression Result Between Promotion Strategies and Website Traffic | 68 |
| | D2 Regression Result Between Promotion Strategies and Website Traffic Using Website Stickiness as Moderator | 70 |
| | D3 Interaction Effects between Promotion Strategies and Moderating Variable | 72 |
| | D4 Regression Result Between Website Traffic and Firm Performance | 73 |

LIST OF TABLES

| | | <u>Page</u> |
|-----------|---|-------------|
| Table 1.1 | Website Traffic for Top 20 Web Hosts in Asia, for Period February 2008 Through April 2008 | 3 |
| Table 2.1 | Summary of Hypotheses | 27 |
| Table 4.1 | t-Test: Differences in the Major Variables by Early and Late Respondents | 37 |
| Table 4.2 | Characteristic of Sampled Respondents | 38 |
| Table 4.3 | Listing of Promotion Strategies Used by Sampled Web Hosts | 39 |
| Table 4.4 | Reliability Coefficients for the Major Variables | 40 |
| Table 4.5 | Pearson Correlations of the Major Variables for Dependent Variable Website Traffic | 41 |
| Table 4.6 | Results of Regression Analysis on Website Traffic as Driver for Firm Performance | 42 |
| Table 4.7 | Hierarchical Regression Results Using Website Stickiness as a Moderator in the Relationship between Promotion Strategies and Influence in Website Traffic | 44 |
| Table 4.8 | Collinearity Analysis | 48 |

LIST OF FIGURES

| | | <u>Page</u> |
|------------|---|-------------|
| Figure 2.1 | Theoretical Framework and Hypothesized Relationships | 21 |
| Figure 4.2 | Interaction Effect between Daily Return and Google PageRank on Unique Visitor | 45 |
| Figure 4.3 | Interaction Effect between Daily Return and PPC on Unique Visitor | 46 |
| Figure 4.4 | Interaction Effect between Daily Return and Banner Ads on Unique Visitor | 47 |

ABSTRAK

Kajian ini bertujuan untuk meninjau perhubungan di antara tiga pembolehubah strategi promosi iaitu pengubahsuaian enjin carian (SEO), rangkaian gabungan, dan pengenalan melalui oral (WOM) kepada trafik laman Web, bagi industri Web hosting. Seterusnya, kajian ini memperkenalkan strategi promosi yang paling kritikal kepada trafik laman Web. Pada masa yang sama, gelagat laman Web turut diuji sama ada pembolehubah ini menyerderhanakan perhubungan di antara strategi promosi and trafik laman Web. Kajian ini juga mengesahkan kesan trafik laman Web ke atas keberkesanan organisasi.

Data yang diperolehi melalui soal selidik ke atas hosting Web menyokong bahawa SEO and rangkaian afilet mempunyai hubungan positif ke atas trafik laman Web. Hasil regresi turut menunjukkan sokongan bahawa gelagat laman Web beraksi secara positif sebagai penyerderhana di antara promosi strategi dan trafik laman Web. Trafik laman Web mempunyai hubungan positif dengan keberkesanan organisasi. Hasil kajian telah mencadangkan strategi promosi yang paling efektif kepada Web hosting, tambahan pula, kajian ini turut memperkenankan aktiviti promosi yang terbaik untuk dipilih bagi semua firma yang berurusan melalui Web. Untuk menarik ramai pelanggan, laman Web e-niaga harus mempunyai paparan yang senang diguna.

ABSTRACT

The purpose of this research was to investigate the influence of three promotion strategies variables, search engine optimization (SEO), affiliate networks, and word-of-mouth (WOM) on Website traffic in the context of Web host industry. Then, the critical driver of Website traffic was identified. Additionally, Website stickiness was examined the influence in the relationship between promotion strategies and Website traffic. This study also intended to investigate the impact of Website traffic on firm performance.

Data from the online survey of Web hosts in Asia region showed that SEO, and affiliate networks are positively related to Website traffic. The regression result evidenced that Website stickiness has positive moderating effect on Website traffic, whilst Website traffic was also found to have positive relationship with firm performance. The implications of this study highlighted the most effective promotion strategies for Web host industry, in addition, this provide insight into the selection of best promotional activities that could adopted by all sorts of e-commerce practitioners. To obtain an ongoing flow of customers, e-commerce practitioners have to ensure that their Websites are easy-to-use.

Chapter 1

INTRODUCTION

1.1 Introduction

Website traffic is one of the most important performance indicators for e-commerce practitioners. Not only does traffic reflect popularity of the Website, but also a prerequisite for generating on-line sales (Hans van der Heijden, 2003). To sustain continued growth of income, it is crucial for e-commerce practitioners to retain ongoing flow of customers to the Website. For all these reasons, many companies adopt strategies to drive more Website traffic, and to build ongoing customer flow.

Hanson (2000) commented that acquiring traffic is expensive, retaining traffic is profitable, and developing traffic requires value. Internet marketing has become a major strategic consideration for Web companies, including the Web hosts. *Web host* is the company that provides space on a server they own and Internet connectivity for individuals and organizations to allow their own Websites accessibility via the Internet. These Web hosts are competing in the monopolistic industry, they make huge investment in the promotional activities, for instance banner ads, Pay-Per-Click, and engagement with affiliate networks in order to inform, persuade, and remind the Website owners about its company and product offerings (Jennifer Rowley, 2004). Advertisements are placed on other Websites, which usually offer links through to corporate Websites. Finally once traffic has arrived at a Website, it is important that the Website is designed in the way that it delivers good usability to increase stickiness and revisit rates, and eventually stimulates online purchases.

Although Internet has been the favorable theme for numerous researchers and scholars during the last decade, there is still a lack of system empirical evidence regarding the role of the marketing activities and performance of business organization (Riyad Eid, 2004). Most research on marketing communication and strategies have been either descriptive or theoretical. Several studies also reported the influences of company attitude towards adoption of new technology in the case of internet marketing.

1.2 Problem Statement

While Web hosts engage actively in marketing activities, the drivers of Website traffic are certainly not clearly identified (R. Kraut *et al.*, 1999). Indeed, obtaining ongoing flow of customers on a corporate e-commerce Website continues to be one of the elusive problems facing the Web hosting firms.

Because of the low-barrier entry to hosting markets that, when a new web host owns a server, it can commence the hosting business, this field becomes more level between companies of different sizes and locations (Joseph Heinen, 1996). As competition becomes more severe, it puts pressure on the profit margins of hosting services that are not sufficiently differentiated. Apparently, web hosts also experience high customer turnover when customer starts to switch to other service providers who offer the similar hosting packages at lower price.

Companies strive to stand out from competition and have embarked on various marketing activities in order to achieve superior performance results. They use advertisement through a variety of media, public relation, sales and promotion, reseller programs, distributorship, and etc, to pursue greater sales volume and revenue of the company. Somehow, these activities are reaching its saturated usefulness and lack unique among web hosts, when competitors

also using the same marketing tools. This phenomenon calls for the needs to look for the passive marketing factors that would stimulate and generates a continuous flow of customers. Several promotion strategies like search engine optimization (SEO), affiliate networks, word-of-mouth (WOM) are common types of passive marketing factors (Eli Research, 2006).

Table 1.1 compares the Website traffic for top 20 Web hosts in the Asia region, using the average number of users who visit the Websites on a three month basis, from February 2008 through April 2009, as the indicator. The ranking is determined by the percentage of global market share of domain names a company owned; whilst the average traffic is measured by the percentage of global internet users who visited a Website (customer reach) within those three months. This statistic reveals that the reach of visitors to each Web host’s site is different significantly. The top Web host, domanddeluxe.com which owns approximately 1.2 millions of domain names, has only about 0.000016% of customers reach. Conversely, the Web host at rank 20th, mainone.com had been attracted 0.00661% of internet users to their Website. Despite lower ranking in the industry, some Web hosts have relatively more audience to their Websites than their rivals which are at higher ranking. For this reason, the study is intended to find out the impact of Website traffic to firm performance.

Table 1.1
Website traffic for top 20 Web hosts in Asia, for period February 2008 through April 2008

| Rank | Hosting Company | Country | Market Share | Total Domains | Average Traffic |
|------|------------------|-----------|--------------|---------------|-----------------|
| 1 | DOMAINDELUXE.COM | Hong Kong | 1.1886 % | 1,196,966 | 0.000016 % |
| 2 | XINNET.COM | China | 0.5973 % | 601,526 | 0.00589 % |
| 3 | HICHINA.COM | China | 0.5405 % | 544,249 | 0.00457 % |
| 4 | ULTSEARCH.COM | Hong Kong | 0.2834 % | 285,340 | 0.000071 % |
| 5 | DNS.COM.CN | China | 0.2317 % | 233,369 | 0.00424 % |
| 6 | DNS-DIY.COM | China | 0.2268 % | 228,418 | 0.00055 % |
| 7 | VALUE-DOMAIN.COM | Japan | 0.1489 % | 149,962 | 0.00207 % |

| | | | | | |
|----|----------------------|-------|----------|---------|-------------|
| 8 | LOLIPOP.JP | Japan | 0.1454 % | 146,498 | 0.0731 % |
| 9 | CNOLNIC.COM | China | 0.1142 % | 115,012 | 0.0016 % |
| 10 | DNS.NE.JP | Japan | 0.0993 % | 99,998 | 0.000038 % |
| 11 | CHINA-ENTERPRISE.COM | China | 0.0867 % | 87,330 | 0.0000041 % |
| 12 | CNMSN.NET | China | 0.0738 % | 74,279 | 0.000013 % |
| 13 | XSERVER.JP | Japan | 0.0716 % | 72,073 | 0.00125 % |
| 14 | NET4INDIA.COM | India | 0.0617 % | 62,116 | 0.00248 % |
| 15 | ONLINENIC.NET | China | 0.0604 % | 60,798 | 0.000014 % |
| 16 | 4EVERDNS.COM | China | 0.0583 % | 58,726 | 0.000118 % |
| 17 | 365.COM | China | 0.0515 % | 51,898 | 0.00815 % |
| 18 | ENAME.CN | China | 0.0474 % | 47,781 | 0.00381 % |
| 19 | TODAYISP.COM | China | 0.0460 % | 46,316 | 0.00099 % |
| 20 | MAINONE.COM | China | 0.0412 % | 41,489 | 0.00661% |

(Sources: http://www.webhosting.info/domains/country_stats; <http://www.alexa.com/>)

1.3 Research Objectives

To increase our understanding on the critical drivers of Website traffic, the research objectives of this study are:

1. To reveal the list of commonly-used promotional strategies used by Asian Web hosts.
2. To identify the critical drivers of Website traffic.
3. To study the impact of Website traffic on firm performance.
4. To investigate the influence of Website stickiness in the relationship between promotion strategies and Website traffic.

1.4 Research Questions

Based on the objectives formulated in subsection 1.3, this study will help to answer the following questions:

1. What are the factors that influence successfully drive traffic to Websites?
2. What are the effects of Web traffics to firm performance?

3. Do Website stickiness moderate the relationship between promotion strategies and Website traffic?

1.5 Definition of Key Terms

Affiliate Program (Dennis L. Duffy, 2005)

- A program that allows other companies, or individuals, to market a company's products or services for a commission fee per item sold.

Affiliate Networks (Dennis L. Duffy, 2005)

- An intermediary between publisher and affiliate programs. It allows publishers to find affiliate program, which are suitable for their Websites and it helps Websites offering affiliate programs reach its target audience.

Banner Exchange Program (Jennifer Rowley, 2004)

- Program in which a company shows a rotating banner ad on its site for other members of the exchange in return for its banner ad being show on theirs.

Firm Performance (George J. Avlonitis *et al.*, 2000)

- Performance of selling and marketing efforts that judged on the basis of not only sales, but also result of sales leads and improvement of customer relationships.

Google PageRank (F. Rimbach *et al.*, 2007)

- The PageRank represents a web site's importance within a set of pages.

Pay-Per-Click (David C. Green, 2003)

- Also known as Paid-for-performance. A form of advertising on a search engine, where advertisers only pay when a user actually clicks on an ad to visit the advertiser's Website. Advertisers bid on keywords, say 10 cents per click, they predict their target market will use as search terms when they are looking for a product or service.

Search Engine Optimization (David C. Green, 2003)

- Designing and improving a Website so that it will rank high in the unpaid search engine listings, and help potential customer to find the Website easily.

Website Traffic (A. Phippen *et al.*, 2004)

- Web analytic metric to measure online visitors' activities, such as number of online visitors, number of unique visitors, page views, length of visit, and etc.

Website Stickiness (A. Phippen *et al.*, 2004)

- The effectiveness of Website content in holding the user's attention and attract repeated visit.

Word-of- Mouth (Tao Sun *et al.*, 2006)

- Passing of information in verbal means, especially recommendation, but also general information, in an informal, person-to-person manner, or via electronic media, such as online forum.

1.6 Significance of Study

Generally, advertisement is a marketing strategy that reaches out and touches the prospect directly. It uses medium such as newspaper, television or radio, printed brochure or advertisement agency to introduce product and service offering to the target customer. Such strategy tends to bring customers fast, but it does not promise the Web hosts an ongoing steady flow of customers. Conversely, affiliate networks, WOM tend to generate a continuous flow of customer in the long run.

Some major players or large-scale Web hosts, such as DomainDeluxe.com, which own more than one million customer hosting accounts, has invested huge money in constructing the server facilities, setting up broadband and Internet connectivity. It would be a huge loss to them if marketing managers overlook the importance of bringing continues flow of prospect and customer to the organization.

For small scale Web hosts, who lease a few servers from a data center for their hosting services, they are not affording to do huge investment in the promotion activities. Hence, from the research report that factorized each marketing promotion strategy, these Web host companies would be able to make decision on which strategies to utilize, not only to generates ongoing flow of customer to their e-commerce Websites, but also pursues a cost effective marketing activities. Ultimately these organizations would able to achieve higher performance for long term period. For instance, search engine listing send droves of visitors to a Website, and they are free. With a good search engine position, it could increase a Website's traffic exponentially.

Current trends in market environment, such as increase of competition, and diffusion of the IT through the organizations, have call for the need to enhance communication capabilities, and to increase electronic exchange among organizations. In view of these marketing phenomena, the examination of the potential of the promotion strategies, become a primary concern.

1.7 Summary and Organization of Remaining Chapters

The study reported here aims to discover the impacts of certain promotion strategies, and thereby help to promote their adoption and usefulness in Web hosting industry. Web hosts need a new approach to marketing that is capable of generates customer-chain, which keep on attracting a large number of audiences to their e-commerce Web sites. Organization could retain a revenue steam to achieve a sustainable growth and financially flourish in the industry.

Chapter 1 introduces the background, problem statements, research objectives, definition of key items, and significance of the study. Chapter 2 states the review of the literatures and relevant pass research studies that act as a basis for the purposed study. In this chapter, it also addresses the theoretical framework and hypotheses. This followed by chapter 3 which describes the methodology of the study, including research design, variables, sample and population, procedures and instruments to collect data. Chapter 4 explains the outcome of the study that illustrates the profile of respondents, goodness of measures, descriptive analyses, hypotheses testing and results analysis. Finally, the implications and explicit benefits that will accrue from this study are discussed.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

The focuses of this study are two folds: first, it studied the relationship between promotion strategies, particularly search engine optimization (SEO), affiliate networks, and word-of-mouth (WOM) with Website traffic. Secondly, the research studied the relationship between Website traffic and firm performance. These three strategies were taken as key drivers for Website traffic because they form the elements of passive marketing that make prospect contact the service providers, and potentially generate an ongoing flow of customer in the long run (Eli Research, 2006).

The effect of Website stickiness was also examined to understand whether it serve to moderate the relationship between the independent variables and dependent variable. Finally, the research also studied the impact of Website traffic and firm performance. Thus, the literature review will cover each variable in the research framework. Theory of diffusion of innovation will be covered in this chapter. Towards the end of this chapter, the theoretical framework and hypotheses will be presented.

2.2 Literature Review

2.2.1 Search Engine Optimization (SEO)

Many earlier studies provided insight into the adoption of SEO as a strategy to increase company presence on the Internet. Internet technologies are increasingly driving one-to-one marketing relationships. On the Web, the first chain in customer relationship building begins not with your site, but in ensuring that customers and other desired demographics (e.g.

media) are referred to your site (David C. Green, 2003). According to Forrester Research Inc. (<http://www.forrester.com/>), search sites (engines and directories) originate 80 per cent of all Web site traffic. With both individuals and companies alike widely using the Internet to conduct research to inform buying decisions, visibility on the Web is critical.

SEO is the process of increasing the amount of visitors to a Web site by ranking high in the search results of a search engine. The higher a Web site ranks in the results of a search, the greater the chance that that site will be visited by a user. SEO helps to ensure that a site is accessible to a search engine and improves the chances that the site will be found by the search engine (Merrily Orsini, 2007).

David C. Green (2003) commented that Web sites must be fine-tuned for search engine indexing and compete for prominence using: (1) on-site search optimization; (2) paid inclusion; (3) sponsored links and paid listings. Search engine optimization can be conducted in-house following a number of steps:

- Keyword research – find out what words clients are using their search terms.
- Write for the Web – produce concise copy that incorporates keywords that are important to the target audience (as identified via the above research). The most important keywords should appear near the top of the page, or in bold, or as hyperlinks.
- Metadata – provide content with context. It is ‘information that describes information’. The page browser title is displayed on search engine results listings
- Links – secure lots of links from relevant third party sites, especially from the reputable site such as university Web sites.
- URL submission – submit your site to the Web directories.

According to David C. Green (2003), paid inclusion involves a company paying a search engine for the right to submit its site directly to the search engine's database so that the site is available more quickly to the searchers. This method is an effective approach for advertiser because it guarantees prompt inclusion in the search engine database.

Conversely, paid listings are short text advertisements within search results screens, with links to the advertiser's site. Advertisers compete with one another by bidding to sponsor selected keywords, so advertisers only pay for those visitors who have clicked on their listing to go to their Web site.

However, optimizing site presence through search engines can be a time consuming, and demanding task. It takes months for a search engine to re-index Web pages and for site owner to see the result. Businesses always outsource this task to SEO companies that specialize in traffic generating or site visibility programs.

2.2.2 Affiliate Networks

During the early stage of e-commerce somewhere around 1998, advertisers engaged in online marketing such as payment for interest (clicks) and e-mail marketing. However, neither one delivered on its promise. Clicks were just clicks and often had nothing to do with sales. E-mail quickly digressed into spam and that promise is unlikely to ever materialize in the ways that on-line marketers hope and promised. (Dennis L. Duffy, 2005).

With all of the frustration, many in the marketplace search for true pay for performance marketing. The advertiser is willing to pay when his product is sold, at the same time, many affiliates are willing to run ads and/or product promotions on Websites knowing that they will earn commissions when successful conversion occurs. There is motivation and reason to

believe that this marketing strategy will live much longer than other on-line marketing strategies and will evolve over time and hold its spot as the most genuine and durable marketing activity for e-commerce companies (Dennis L. Duffy, 2005).

The affiliate networks works in the way that affiliates place a variety of different kinds of ads, such as banners, text ads, or even product links) on their own Website, with aims to motivate the online visitors to take an action to access, review and potentially buy a product or service from the advertiser Website (advertiser is a term used to represent the party who seeks to sell the product). When it works, the affiliate gets paid a commission (Dennis L. Duffy, 2005).

Apart of affiliate networks, Jennifer Rowley (2004) suggested another type of communication channel, the banner ads. Banner ads offers links through to other Web pages, and they are typically placed on Web sites that already have established traffic, such as portals in order to increase the likelihood that the banner ad will be seen.

Banner ads also play a role in creating and reinforcing brand image. The online visitors see the advertisement and note it consciously or subconsciously (Brett *et al.*, 2002). Visitors who are exposed to a repeated advertisement would recall and recognize an advertiser easily when the times they acquire the product. In the same spirit, Jennifer Rowley (2004) pointed out that companies place banner ads in pursuit of desired outcome that visitors will see the advertisement and note it consciously or subconsciously; this viewing helps to create and reinforce brand image.

2.2.3 Word-of-Mouth

Online word-of-mouth has become a common topic of research in the area of computer-mediated communication, particularly in the context of consumer-to-consumer interactions (Tao Sun *et al.*, 2006). Victoria *et al.* (2005) dubbed word-of-mouth (WOM) as “buzz marketing”, it can be an important component for site traffic generation. It is the process of letting Internet users learn about a Website through multiple Internet channels, such as e-mails, participation in chat rooms or news groups, bulletin boards, forums, instant messenger clients, Web blogs, product or service rating on a consumer feedback Website, or via a genuine link on another Website (Mark, 2007). In the process, online WOM has attracted researchers' attention as a convenient, inexpensive, and less intrusive venue for sharing interests and ideas in online communities (Tao Sun *et al.*, 2006).

Forums create the prime opportunity for the e-commerce practitioners to enhance its marketing communications through the hypermedia environment. As Armstrong and Hagel (1996) observe, “virtual communities not only gather potential purchasers together, but they also arm them with far more information than they have typically been able to access conveniently and cost effectively in the past”. By adding value through the provision of content (and facilitating information flows between members), e-commerce Websites can both draw customers in and expose them to the elements of the marketing communications mix. Wills and Wills (1996) state that the benefits of electronic publishing to readers are founded through two predominant motivations: to stay up to date and awareness of development in their area(s) of interest; and to search the body of knowledge on a given topic.

WOM communication is likely to be perceived as more persuasive because information from personal sources is considered more credible than information from mass media or marketing sources (Tao Sun *et al.*, 2006). Information from personal sources is both custom-tailored and independent of the intention of an organization to sell something. All of the above factors may contribute to the trustworthiness of WOM communication channels, although consumer comments posted on an independent online forum might not be more persuasive than those posted on a corporate Website (Tao Sun *et al.*, 2006). Some current database marketers can also create highly customized messages and deliver them to specific targets with the help of sophisticated database management technologies over the Internet. In the meantime, many consumer-generated online reviews are far removed from the personally-tailored messages sent by savvy marketers. (Tao Sun *et al.*, 2006) also suggested that responses to consumer comments are moderated by such receiver characteristics as product involvement and experience with offline WOM. It seems to follow that people might not be influenced by where and how the messages are placed as much as by their interactions with products and opinion leaders in the diffusion of innovation process.

2.2.4 Website Stickiness

Stickiness measures the ability of a Website to bring visitors back and again, some determinants of Website stickiness includes: (a) how often is a visitor come back to the Website; (b) time spent per visit; (c) number of page views per visit. These aspects of stickiness are related to the usability of the Website.

J. Michael Pearson *et al.* (2007) define Web usability as making the design simple enough so that customers, who by nature tend to be goal-driven, can accomplish their task as quickly and painlessly as possible. It is also important for design to meet the needs of the customer

rather than be attractive and fun. If the customer finds the site too difficult to use, there will not be purchase or return visits.

Recent information system literature has focused on Website usability in the context of understanding e-commerce, in which some researchers investigated usability based on multiple dimensions and media richness literature, as shown below (J. Michael Pearson *et al.*, 2007):

1. Navigation

In the review of literature on Web usability, authors found that navigational controls were important for Websites. They found that consumers prefer Web sites that lend themselves to navigation efficiency. Results from the previous studies show that users will take paths totally different from what designers expect – such as completely skipping the home page. Navigation that is simple, efficient, user-centered, and flexible will help the customer achieve intended goals and increase the likelihood of return visits.

2. Customization and Personalization

Studies have found customization and personalization, dynamically fitting a site to the user's needs, to be important factors in Website success. In this spirit, personalization, also referred to as “made-for-the-medium” can increase user satisfaction with an interactive Website, which is essential to establish ongoing relationship with the customer.

3. Download Speed

Content of a Website such as images, video clips, and/or audio clips can affect the download speed in initially accessing a site and in subsequent request of pages within the site. Research has shown that users find download delay and important factor in Website usability. The author found that waiting too long access online information can lead to anxiety for users and loss of satisfaction with the Website. Thus, these users are reluctant to visit the Website again.

4. Accessibility

Accessibility is important for Website usability as users will not be able to complete purchase transactions if they are unable to use the site. Accessibility, when pertaining to a Website, means that information has been made available for use by potential users of that particular Website, including individuals with disabilities. However, authors warned that following every accessibility guideline can involve excessive development time for a business, but he suggests that developing reasonably accessible Websites should be a priority. Website designers should test the sites with text-only browsers and make sure that at minimum, all information is being displayed. Users will be more satisfied with accessible sites and are more likely to make return visits.

If a Web designer was able incorporate the above dimensions into the Web page design, there is higher chance for the online visitors to return to the Website more regular.

2.2.5 Website Traffic

Website traffic is a Web analytic metric to measure online visitors' activities, such as number of online visitors, number of unique visitors, percentage of visitors from different geographical era, page views, length of visit, and etc. These results form the basis for evaluating the success of a Website, especially the e-commerce Website.

A. Phippen, L *et al.*, (2004) defines two type of Web analytic metrics, as shown following:

1. Basic Web metric

Basic Web metrics are generally accepted as the start of the Web analytics concept. Although there are no industry standard definitions for these measures, Cutler and Sterne (2000) present a clear explanation of the basic measures, as shown in the following section.

- Measurement and monitoring of Web site traffic
- Segmentation – the differentiation of site visitors based on behaviour on the site
- Assessment of online initiatives (e.g. Web site redesign), and improvements to processes (e.g. online shopping processes)
- Measuring impact – revenue and popularity of online campaigns
- Monitoring of external referrers
- Monitoring of click streams and paths

Over time, businesses have begun to find the use of basic metrics such as hits and pages views to be woefully inadequate for assessing the success of Websites, due to the fact that their simplistic and ambiguous nature can induce misleading conclusions (for example, spidering of a Web site can indicate lots of hits, the use of frames can

greatly increase the number of page views, etc.). Therefore, it can be said that the basic metric is no longer provide meaningful evaluation in terms of measuring Website success.

H. Inan (2002) identifies that the Web now represents a business channel in itself, rather than just an advertising tool, and as such, a more holistic approach to Web measurement is necessary. Perhaps the main reason why basic metrics are now considered inadequate is the increased involvement of the customer in a Web experience. For this reason, companies are now adopting a more customer-centric approach. This brings to the development of advance Web metric.

2. Advance Web metric

Advanced Web analytics aims to measure and understand the relationship between the customer and the Web site. Aberdeen Group (2000) defines advanced Web analytics as: ‘Monitoring and reporting of Web site usage so that enterprises can better understand the complex interactions between Web site visitor actions and Web site offers, as well as leverage insight to optimize the site for increased customer loyalty and sales.’

This advance Web analytic not only taken the basic metric into account when deriving a formulae, it also incorporates customer data like demographics, and subscription data. There are several possible areas where these advance metrics could be applied (A. Phippen, L *et al.*, 2004):

- Customer lifecycle analysis - this analysis attempts to examine the success of a Web site using customer lifecycle theory (i.e. the success of the relationship between the customer and the Website). This analysis looks at each stage of the customer

lifecycle, and analyses information. Such as the number of customers in each stage, to the cost to the company of moving customers through each stage, to the cost and numbers of "dropouts".

- Customer behaviour analysis – this analysis attempts to examine Web content stickiness, design effectiveness and performance efficiency (H. Inan, 2000).

In short, the Web traffic is an essential data for the further development of advance Web analytics that would give advantage for large organization to attract and retain huge customer database.

2.2.6 Firm Performance

According to George J. Avlonitis *et al.* (2000), appropriate performance measurement is an issue that has been extensively debated in marketing literature. This author argued that performance of selling and marketing efforts often is judged on the basis of not only sales, but also on other criteria that are essential to business-to-business marketing, such as implementation of sales leads and improvement of customer relationships. Such justification is applicable to e-commerce sites as well. The measures of Web firm performance should be closely linked to the objectives that were to be achieved through its applications by the sales and marketing departments. Drawing on the above view, this study focuses on performance issues that related to total sales, sales leads, new orders, and customer relationship.

2.3 Theory of Diffusion of Innovation

The model underlying the research is the theory of Diffusion of Innovation (Rogers E.M., 1995). The significance of internet marketing strategy as a technology innovation in e-

commerce Websites has not been studied rigorously from the perspective of Diffusion of Innovation (DOI).

According to Rogers E.M. (1995), "Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social System." In other words, the study of the diffusion of innovation is the study of how, why, and at what rate new ideas and technology spread through cultures. Riyad Eid (2004) raised the point that Rogers has defined eight types of research into the diffusion and adoption of innovations, from "earliness of knowing about innovation", and "rate of adoption in different social systems", to "opinion leadership", "diffusion networks", "communication channel use" and "consequences of innovation". These issues may have particular significance from a marketing perspective.

This study uses the diffusion model as a theoretical background to examine the information flow process through diffusion networks and WOM communication channels. In this study, search engines and affiliate networks can be thought as the elements of diffusion networks. It is presumed that affiliates and marketers participation in WOM play a key part in recommending product that could trigger the diffusing of information to other members in their online community, which in turn can influence the flow of customer to e-commerce Website. We evaluate the success of these networks and channels from the perspective of firm performance, in which this step conforms to the final stage of diffusion theory. In this proposed model, Website stickiness is considered to moderate the relationship between characteristics of SEO, affiliate networks, WOM that enhance the Website traffic.

2.4 Theoretical Framework

Figure 2.1 shows the research framework with the hypothesized linkages between the constructs. These linkage deals with five sets of hypotheses:

1. The effect of search engine optimization on Website traffic.
2. The effect of affiliate networks on Website traffic.
3. The effect of word-of-mouth on Website traffic.
4. The moderating effect of Website stickiness on Website traffic.
5. The relationship between Website traffic and firm performance.

The next section provides description for each constructs, followed by the development of the hypotheses. The relevant literature for each hypothesized relationship is discussed in the correspondence hypotheses development section.

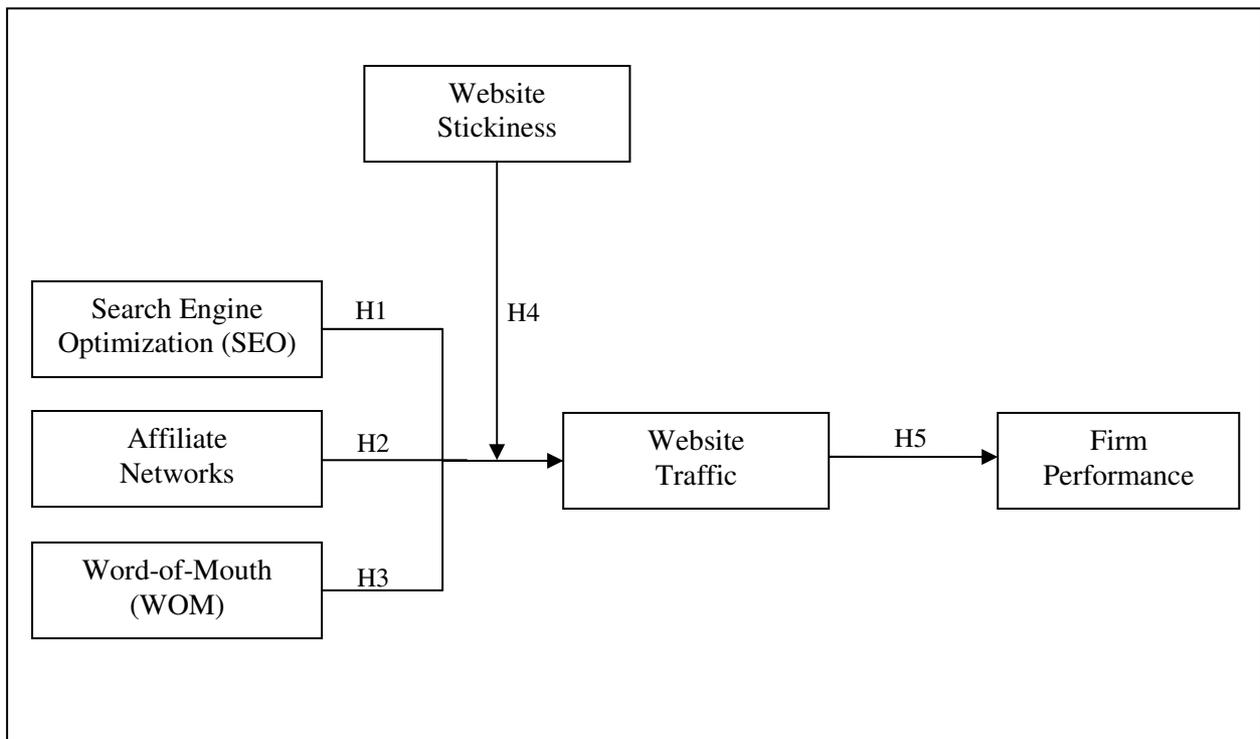


Figure 2.1. Theoretical Framework and Hypothesized Relationships.

2.5 Hypotheses Development

2.5.1 Search Engine Optimization (SEO) as a Driver of Website Traffic

An IDC (<http://www.idc.fr>) report, 'Web positioning as a critical e-marketing tool', noted that companies had three strategic objectives in optimizing their presence on the Web (David C. Green, 2003):

- Visibility on key search sites is critical in the early stages of Web site and market development. This involves being listed in the appropriate category of a directory listing and search engine results, directly related to the company's core target market.
- Generating qualified traffic for targeted marketing of specific products and services.
- The more tactical objective is the respective ranking of a company with its competitors.

On the other hand, Michael P. Evans (2007) conducted a research to analysis the most effective techniques used by the Search Engine Optimizers (SEOs) today by analyzing a set of highly optimized Web pages. The study revealed the factors that most likely exert the greatest influence on a page's rank, and concluded its results:

1. Number of Web pages in a site indexed by search engine.

Volume of pages is a factor employed by many SEOs, but with limited results. Google's claim that high quality content beats low quality seems to be borne out (although spammers can still get high results if they are not too obvious in other areas).

2. PageRank of a Web site.

PageRank is still extremely important in ranking highly, but a high PageRank will only make it probable that your page will rank highly. Other factors play a role that may negate a high PageRank.

3. Number of in-links to a Web site.

The research concluded a trend that shows a decline in the page rank as the number of in-links falls.

4. Listing in Yahoo and DMoz directories.

Being listed in DMoz is a technique employed by the successful SEOs. However, very few SEOs attempted Yahoo directory submission given the fact the entry into the Yahoo directory is costly and it may take several months for a site to be listed.

Being consistent with the objective and results derived from those past researches, the current study hypothesizes an association between SEO and customer flow. Therefore:

H1: The higher the search engine ranking, the larger the impact on generating Website traffic.

2.5.2 Affiliate Networks as a Driver of Website Traffic

To support the impact of affiliate networks on Website traffic, Dennis L. Duffy (2005) commented that when there are thousands of advertisers offering the affiliate marketing programs, and when there are thousands of affiliates working for many different advertisers simultaneously, this drive incremental traffic and sales to advertisers' e-commerce Website. Both parties win and affiliates earn the commission from each sale that is generated.

Companies place banner ads in pursuit of desired outcomes that visitors will click on the banner ad, and thereby click through to their Websites. Click through rate is the proportion of visitors who click on the banner ad, and visit the organization's site, and is an important measure of the impact of banner advertisements (Jennifer Rowley, 2004).

Dholakhia and Rego, (1998) argued that a healthy range of reciprocal arrangements for mutually useful placing of banner advertisements exists between strategic partners. These authors suggested that the number of links to other Web pages is a crucial factor in popularity.

There is a need to market the affiliate program aggressively. Affiliate networks should not be considered only as new customer acquisitions. The network will certainly bring in new customers, but it is also going to drive repeated business because the links are where the customers spend their time. They are going to come back through affiliate links. It may be important to consider different reward structures for new customers brought in and repeated customers (Mukul P. Gupta, 2004).

Finally, Jennifer Rowley (2004) suggested the use of free advertising networks to draw traffic to a Website. Jennifer quote the example LinkExchange (www.linkexchange.com), which is a free advertising network that supports the exchange of banner advertisements. For every two advertisements that appear on a company's site, that company's advertisement is displayed on another site, free of charge. Thus, it is hypothesized that:

H2: The greater the use of affiliate networks, the larger the impact on Website traffic.

2.5.3 Word-of-Mouth (WOM) as a Driver of Website Traffic

According to Victoria *et al.* (2005), previous studies have indicated that WOM can have a significant impact on consumers' purchase behavior and satisfaction with products and services. Further, consumers tend to rely more on, and even prefer, personal information sources for services than for products.