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A THESIS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION GRADUATE INSTITUTE OF PUBLISHING & CULTURAL ENTERPRISE MANAGEMENT STUDIES, NAN HUA UNIVERSITY

以結構方程模型結合 TAM 和 IDT 分析部落格使用者的使用態度之研究

An analysis of the Blog-User' attitude employing structural equation modeling combine TAM and IDT model

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碩士學位論文

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謝誌

兩年的努力，就是為了五月二十三日這一天。想當初懵懵懂懂的踏入出版所，剛開始就對自己抱持懷疑的態度，想說，我真的有辦法兩年把論文完成嗎？研一的寒假，很幸運的讓我找到黃昱凱老師，也很慶幸可以找到如此為學生著想的老師，不管是論文還是未來的工作方向，都給予很大的支持和鼓勵。從一開始的設計問卷到最後的問卷發放，老師也是盡心盡力幫我處理中間的過程，也讓我可以省下很多時間進行論文的下一步。雖然一開始老師提議我以英文寫作確實讓我嚇一跳，不過也代表老師的苦心，想讓我多讀點英文，讓我出社會可以更有競爭力。也感謝口委老師郭奕妏老師和趙家民老師對學生論文的建議和評論，也讓我的論文可以趨於完善。

研究所的生活真的很有趣，也跟大學的生活有很大的差距。上了研究所才會發現，以前大學的辛苦根本不算什麼。一路的磨練和挫折陪伴，也讓我更加成長。也因為有研究所這些可愛熱情的同學相伴，讓我覺得在學習的過程中真的一點都不寂寞：逗趣的 000、好欺負的玉萱、有個性的品卉和瑋莉、好室友孟祺、黑色幽默的品承、深藏不露的耀哥、差點跟人跑的黑妹、超認真的綉慧姊、虎牙跟我長同邊的大軍、好姊妹潘潘，還有陪伴我快六年的帥帥克。而已經畢業的學長姐：好貼心的椰子和胖帥壘哥；當然還有可愛的學弟妹：很混的昇源、可愛的旻儒和佩君，還有大學部那些超可愛的學弟妹們，謝謝你們一路相伴。而在職班：辣妹佳楓姊、熱情的燕純姊、超熱情的阿里山小夫妻、有趣的冠如姊和育昭姊，你們也都是熱情的泉源，讓我感受到真正的菸酒生熱情。我知道，還有好多人沒有提到，也感謝默默為我付出的人，我的家人、我的朋友，謝謝你們。六月十三日，在此跟大家道別。

呆呆 炎熱的季節 筆

民國 98 年 6 月 8 日

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論文題目：以結構方程模型結合TAM和IDT分析部落格使用者的使用態度之研究

研 究 生：何盈慧　　指導教授：黃昱凱　博士

論文摘要內容：

本研究探討的目的係促使顧客持續使用部落格(Blog)服務的態度的主要誘因。由許多理論的觀點集結成一個模型，假設使用者的持續行為。此模型是對部落格使用者使用經驗的廣泛調查。而科技接受模型(Technology Acceptance Model ,TAM)和創新擴散理論(Innovation Diffusion Theory, IDT)為本研究的理論基礎。本研究以結構方程模型(Structure Equation Modeling, SEM)和重要度和滿意度分析(Importance-Performance Analysis, IPA)，分析有使用過部落格的使用者其有效問卷900份，並分析他們認為部落格的功能重要和滿意的地方，並對未來可能重要的部落格功能提出建議。

本研究使用兩個不同的分析方法：結構方程模型和重要度和滿意度分析。顯著的結果包括：(1)部落格的有用性、易用性、可試用性和可觀察性對使用者的態度有正向的影響，而(2)重要度和滿意度的分析，部落格介面平穩、提供多樣化的功能和提供上傳精靈是是落在第一象限，(繼續保持區)。(3)部落格未來功能的重要度和滿意度則是認為間彼此可以分享資源是落在第一象限，(繼續保持區)。根據這些提供的結果來探討和研究。因此本研究最後將針對分析結果，提出建議給實務界和學術界。

關鍵字

部落格、科技接受模型、創新擴散理論、結構方程模型、重要度和滿意度分析

Title of Thesis： An analysis of the Blog-User' attitude employing structural equation modeling combine TAM and IDT model

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Name of student： Ho, Ying-Hui **Advisor：** Ph.D. Huang, Yu-Kai

Abstract

This paper examines key motivators for consumers' attitude towards continuing the reception of existing blog services. Multiple theoretical perspectives are synthesized to hypothetically construct a model of continuance behavior, which is then empirically tested using a field survey of online blog users, and Technology Acceptance Model (TAM) and Innovation Diffusion Theory (IDT) are the study's theoretical bases. The study uses Structure Equation Modeling (SEM) and Importance-Performance Analysis (IPA), and analyzes users who have used blogs and the 900 samplings were effectively taken as result. And this thesis also analyzes importance and performance perceived by sampled users in blogs' functions, and gives some suggestions for blogs' vital functions in the future.

Two different analysis methods are used in this study: SEM and IPA. Salient results include: (1) blog's usefulness, ease to use, trialability, and observability are positively affecting users' attitude, (2) Base on Importance-Performance Analysis, if the interface is smooth, and it provides multiplicity and uploading functions belonged to quadrant 1, (keep up the good work), and (3) the most important blogs' future functions is sharing resources between blogs associated with quadrant 1, (keep up the good work). Implications of these results for practice and research are provided as result. Finally, the result of this study is expected to serve as a useful guideline for Internet service providers and future research.

Key words: Blog, Technology Acceptance Model, Innovation Diffusion Theory, Structure Equation Modeling, Importance-Performance Analysis

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Chapter 1 Introduction

1-1 Research Background and Motivation

Blogs first appeared less than ten years ago but the information explosion has caused their usage to grow exponentially. Blogs are in use throughout the world and have become a tool of the masses. The last decade has also seen much importance placed on blog research. Because of this rapid growth many people simply do not understand what blogs are, or how they are used. Four million blogs could be found on the Internet five years after they first appeared in 1999. However, by December 2007 the blog search engine Technorati (http://technorati.com/) was tracking more than 112 million different blogs. According to these data, the effect on the traditional media and publishing must be very great.

Taiwan now has its own blog platforms, such as Wretch, Yahoo, PIXNET, Xuite and others. Between June 21 to 22, 2007, a study by InsightXplorer of Internet blogger behavior in Taiwan provided 4717 effective samples from http://www.insightxplorer.com/news/news_09_21_07.html. Of these about 70% have blogs and 44.8% regularly update them. Wretch and Yahoo accounted for the majority of managed blogs (68.2%) and Xuite, Yam and Windows Live Space were the ‘second string’ of the top five Blog platforms. The motive expressed by the majority of the users were “the use of words and pictures to record their lives” (72.6%) and to “reflect one's feelings and express ideas” (69.6%). Of the users who regularly updated their Blogs (N=3215) 44.8% did so every week. We can see from these data the degree and frequency of Blog usage. As shown in Figure 1.

Users gave the following reasons for the choice of a platform: first was “friends all use” (52.4%), “a good user interface” (36.1%) and “many e-pals” (31.9%). The study further analyzed the ‘factor of choice’ of the top five platforms and found that for Wretch “friends all use” and “many e-pals” were the main reasons; Xuite's most popular reason for choice was “a stable system that is rarely off-line”; Yam was ahead the other blogs in “enough space for personal use”, “no fees” and “a good user interface.” These were the most positive reasons given by users.

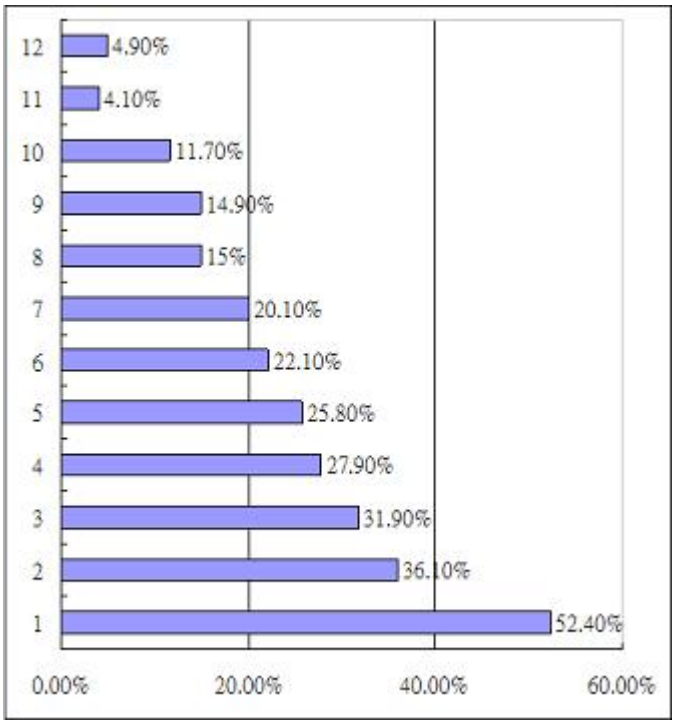

Figure 1. Choice of a blog platform

Source: InsightXplorer: http://www.insightxplorer.com/news/news_09_21_07.html

Notes:

1. Friends all use; 2. Good user interface; 3. Many e-pals; 4. No fees; 5. Enough space for personal use; 6. More functions for editing the interface, words and pictures; 7. Stable system that is rarely off-line; 8. The interfaces beforehand are beautiful; 9. Flexible data uploading; 10. Functional attention to detail ; 11. Holds frequent activities for users; 12. Other.

The study's motivates, in our changing technological environment the World Wide Web, plays a very important part. This fast developing technology has made it possible for people to interact in ways that were impossible before. This phenomenal increase in the exchange of ideas between people has many perspectives that can be investigated. This study explores the phenomenon of the Blog in Taiwan. This is a worthwhile pursuit that gives us much food for thought. How can it be possible for 112 million blogs to be created in under 10 years? The study also explores the attraction blogging has for the user and also attempts to make some suggestions that might help Blog providers improve their services.

1-2 Research Purposes and Question

When we refer to TAM and IDT's references, we can found that many references were not combined TAM and IDT in their studies, and when we found it that IDT's observability, trialability, and compatibility were not in that study. So the study employs structural equation modeling and combine TAM and IDT model to analyze blog using attitude, and employs IPA to explore blog importance and performance. Further study, we explore the importance of blog future functions, and expect providing the references to academia and servicers.

According to the research objectives of this study, the questions are:

a. To explore the factors that can affect the attitude of blog users using by TAM and IDT analysis.
b. To design an IPA, and examine the conditions under which Blog functions are used.
c. To uncover the factors that affect user attitude towards providers and encourage them to develop better functions from an examination of this information and then motivate the user to adopt the innovative technology.

1-3 Research Objectives and Scope

1. Research subjects:

The subjects of this study have to use blogs. On the other hand, the respondents' identity is writer or reader on blog.

2. Research Contents:

The study employed the Davies theory of Technology Acceptance Model (TAM) and the Rogers Innovation Diffusion Theory (IDT) to examine the effect of user's attitudes to the use of Blogs; then an Importance-Performance Analysis (IPA) was made to explore user importance and performance. Lastly, and on the basis of these findings, we were able to give providers some guide lines that might result in the improvement of Blog functions.

3. Questionnaire period:

The study's questionnaire period was from November 17 to December 31, 2008.

4. Questionnaire platform：

Firstly, CVS (http://210.17.21.66/CVSVote3.htm) was asked to design my questionnaire and put it on the web to be filled in by people who had ever used it. Secondly, we sent printed copies of the questionnaire to undergraduates.

1-4 Research Procedures

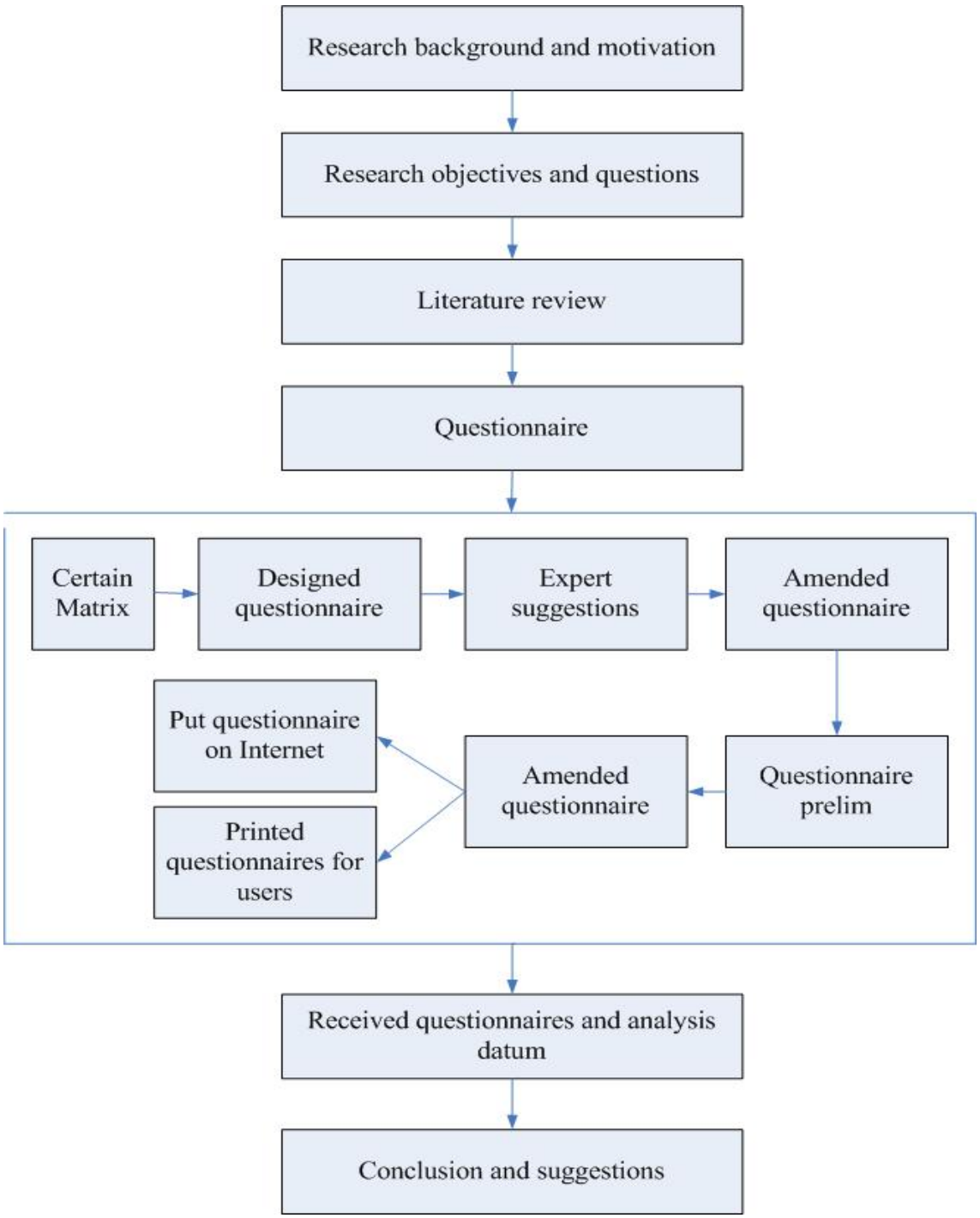

Figure 2. Research Procedure

Chapter 2 Literature review

2-1 Blog

What are Blogs? How and when did they first appear? Wikipedia defines a Blog (a contraction of the term "Web log") as a kind of website usually maintained by an individual, a Blogger, who regularly enters comments, descriptions of events, or other material such as graphics or video. Entries are commonly displayed in reverse-chronological order. The word "Blog" can also be used as a verb, meaning to maintain or add content to a Blog.

M. W. Dictionary, and H. Hewitt (2007) mention that Blogs first appeared in 1999 with the object of commenting on politics, and it certainly caused an increase in campaign funding for many candidates. Blogs attracted immediate attention once they had been introduced into politics and these “Poliblog” commentaries had a tremendous influence on elections.

2-1-1 Characteristic of blog

S. I Todoroki, T. Konishi, and S. Inoue (2005) said that blog-based research notebook enables us to manage all the personal information electronically, which was formerly recorded in our paper-based notebooks. This service requires user authentication function in a user-installed server and infrastructure for ‘‘blogging anytime, anywhere’’. Once these are satisfied, the blog acts as a personal informatics

workbench; a gateway to all the information needed which is traceable and retrievable. Although some existing knowledge-sharing systems also have electronic notebook service as their front-end, the present and existing notebooks should be properly used depending on the purpose, managing personal information or promoting knowledge-sharing.

The growth of Weblogs, also abbreviated to blogs, on the Internet has been phenomenal. Originally an online writing tool that helped its users keep track of their own online records, the blog quickly turned into a key part of online culture. The method provides an easy way for an average person to publish material of any topic he or she wishes to discuss in a web site. With a popular issue, a blog can attract tremendous attention and exert great influence on society. (C. L. Hsu and Judy C. -C. Lin, 2008).

M. W. Dictionary defined that blog is a Web site that contains an online personal journal with reflections, comments, and often hyperlinks provided by the writer; also: the contents of such a site.

According to Wikipedia explained that many blogs provide commentary or news on a particular subject; others function as more personal online diaries. A typical blog combines text, images, and links to other blogs, Web pages, and other media related to its topic. The ability for readers to leave comments in an interactive format is an important part of many blogs. Most blogs are primarily textual, although some focus on art (artlog), photographs (photoblog), sketches (sketchblog), videos (vlog), music (MP3 blog), audio (podcasting), which are part of a wider network of social media. Micro-blogging is another type of blogging, one which consists of blogs with very short posts.

As shown on Figure 3 When we post articles on the Internet we can choose how they will be classified. Many Blog applications will actually allow the choice of any type of classification and the Blogger need not worry about choosing the type of Blog either. It is only necessary choose whatever type and style of Blog interface you like. Readers can also choose their favorite articles using these classifications.

Figure 3. Articles' classification of Wretch

Source：Wretch, 2009.04.06: http://www.wretch.cc/blog/.

2-1-1 Summary

To summarize, very little technical knowledge is needed to set up and run a Blog. All you need to establish your own Blog or Blogs is a computer and an Internet connection. You will not only be able to share articles, your personal feelings, pictures and videos, but you can also make friends and share your opinions with anyone or everyone else you encounter on the Internet. Using a Blog to express your opinions will also improve, and perhaps also change, the style of both your writing and reading.

2-2 Technology Acceptance Model, (TAM)

The Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB) and Technique Acceptance Model (TAM) are useful theories for investigation and examination of acceptance and adoption within the technical domain.

Because the goal is a concise and accountable theory, TAM is a model most likely to provide an account of this information technology needed by the user (M. J. Tsai, 2007) but TRA and TPB are used on many Tessitura domains. However, only TAM is directly oriented towards the information technology domain. TAM was designed to explain the determinants of user acceptance of a wide range of end-user computing technologies (Davis, 1986). This study will focus on the User's attitude towards Blogs using TAM and will then use the same references for a treatment of the Blog problem.

Research in 1986 by Davis led to the introduction of the formal concept of TAM. The theory was developed from basic TRA as a way to examine relationships such as perception and emotional factors in the use of techniques. It is hoped this model can be generally applied to provide explanations and allow calculations in information technology.

2-2-1 Characteristic of TAM

Perceived ease of use (PEU) has been found to have a significant effect on the intention to use a technology, and perceived usefulness (PU) has consistently been a strong determinant of the intention to use a technology (V. Mellarkod, R. Appan, Donald R. Jones, and K. Sherif, 2007). People's perceptions about blogging technology

usage may be developed while they participate. To explain a user behavior, two influential beliefs: PU and PEU were incorporated in TRA and replace the TRA model's attitudinal determinants with two beliefs: perceived usefulness and perceived ease of use (H. Y. Lee, H. Ahn, and I. Han, 2007).

Both of these influence the individual's attitude toward using a system, which, in turn, explain the individual's behavioral intention (BI) to use the system (C. L. Hsu and Judy C.C. Lin, 2008). In fact, the model is to provide a basis for tracing the impact of external factors on internal beliefs, attitudes and intentions (Davis, F. D., R. P. Bagozzi and P. R. Warshaw, 1989). See Figure 4.

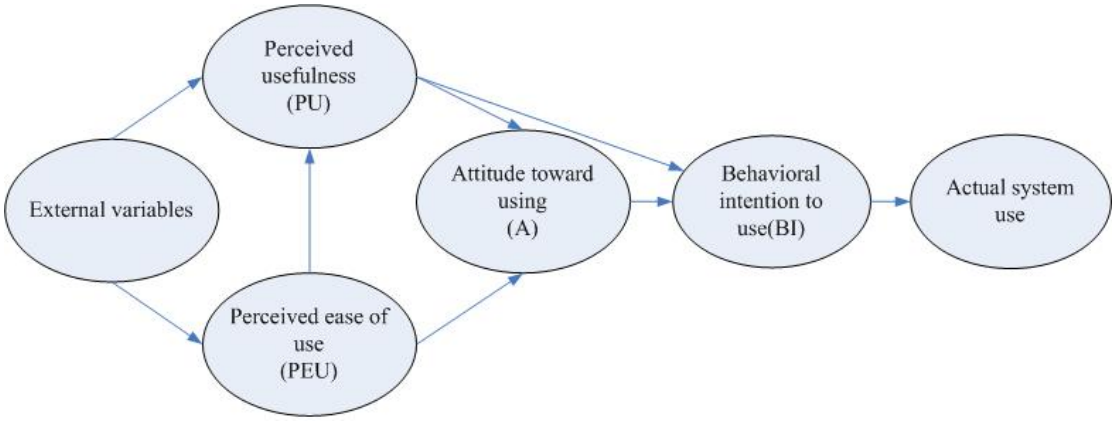

Figure 4. Technique Acceptance Model

Source: Davies *et al.*, 1989

TAM major aspects describe as follows:

1. *Perceived ease of use (PEU):* Its mean when users are used the technical creature, it's good use on degree of using the technical creature. External variables effects perceived ease of use, and some factors also can effect it, like 'the system operates simplification' and 'users' degree' are.
2. *Perceived usefulness (PU):* Its means when users are used the technical creatures

that it can increases representation on his jobs or help his future. From TAM we can find when users think the system operating simplification, users can finish more performances and improve performance work when they use the same effort. So that PEU has a direct impact on PU.

3. *Attitude toward Using:* Both of PU and PEU effects users using technical creatures. In other words, when the technical creatures be argued that their degree of usefulness and degree of ease will more higher, and the attitude is positive when use the creatures.
4. *Behavioral Intention to Use (BI):* TAM argued that behavioral intention is effected by attitude toward using and perceived usefulness on person. If the creatures are higher helpfulness, the intention of using will more higher; there against more lower.

P. Legris, J. Ingham, and P. Collerette (2003) found that only 60% of TAM studies considered external variables. The authors argued that it is important to study external variables, because they are the ultimate drivers of usage. They also found that many studies examined intentions-to-use systems rather than usage.

But in my study that external variables and intentions-to-use systems will not include, because that is not the point in my study. We just want to explore the relationship between PU, PEU and attitude toward using blog.

2-2-2 Adopted variables

TAM was the first model to mention psychological factors affecting computer acceptance, and the model assumes that both perceived usefulness and perceived ease of use of the new technology are central in influencing the individual's attitude towards

using that technology (Erik M. van Raaij, Jeroen J.L. Schepers, 2008). And Y. -C. Huang (2006) said that effect the attitude what use the new technology had two beliefs: PU and PEU.

Just like T. G. Kim and J. H. Lee and R. Law (2008) argued that both perceived ease of use and perceived usefulness jointly affect attitude towards use, whilst perceived ease of use has a direct impact on perceived usefulness. The study will adopt PU, PEU and attitude's relationship, and attempt to apply the theory on blog. But the study's model is like original model, and now we just want to treat about attitude, not intention.

According to these references, the study explores three variances: PU, PEU and A. So the TAM model likes Figure 5 on my study.

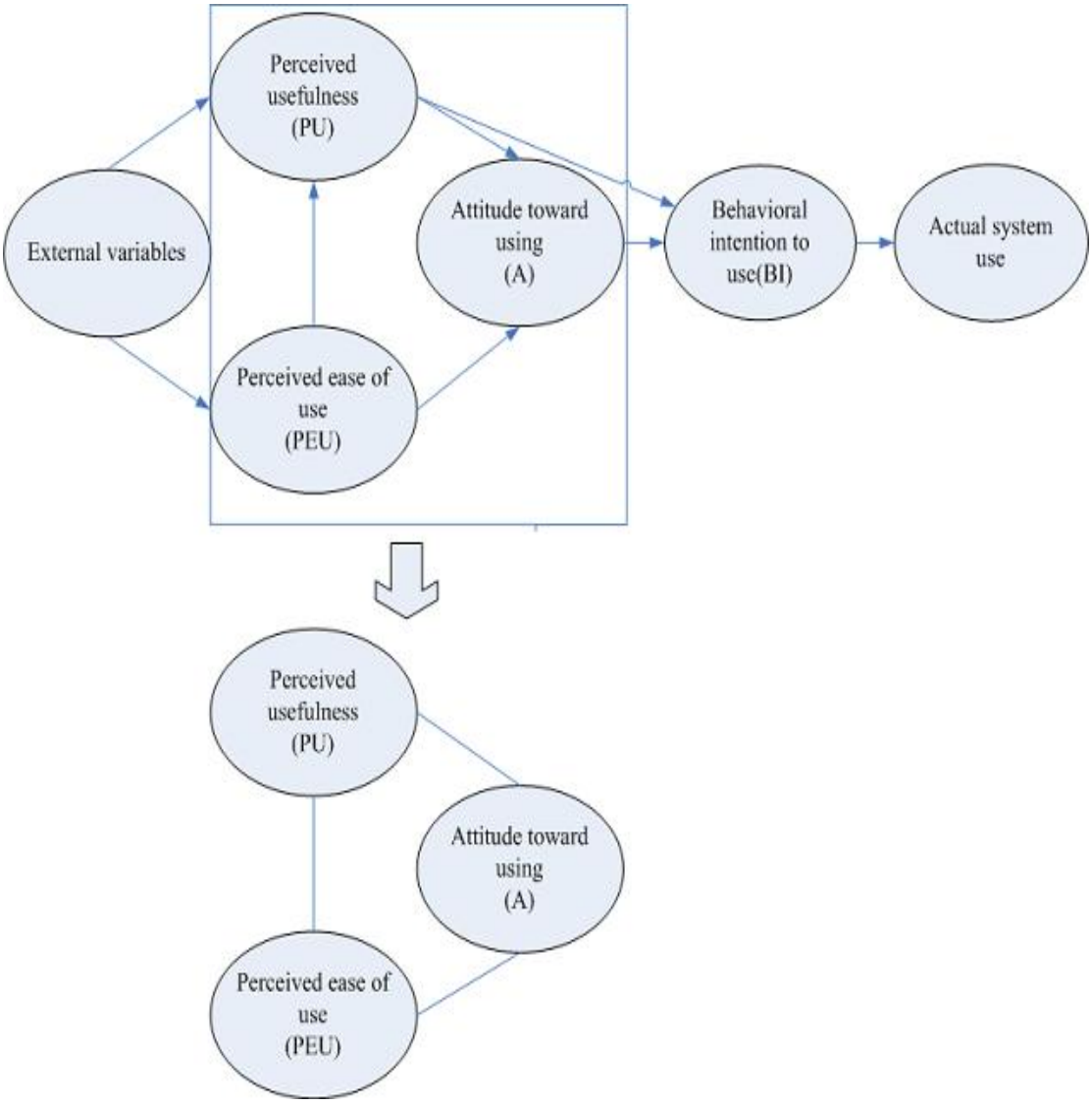

Figure 5. Adopted variances model from TAM

To collect references and define the three variables for the study.

Perceived Usefulness (PU):

Il Im, Y. Kim, and H. -J. Han (2008) considered that PU would be more important when the technology was more job–related or utilitarian, and Carolina L. -N., Francisco J. M. C., and NSand H. B.(2008) defined PU is the degree to which a person believes a system will help in performing a task more easily, quickly, and with quality, productivity and effectiveness. R. Walczuch, J. Lemmink, and S. Streukens (2007) given that PU is defined as the prospective user's subjective probability that using a specific technology will increase his or her job performance, and J. Lu, C. Liu, C. -S. Yu, and K. Wang (2008) also said that PU is a measure of the individual's subjective assessment of the utility offered by the technology. So we can know that PU means when we use something about technique that we will have good performance on our job or life.

Perceived ease of Use (PEU):

Il Im *et al.* (2008) defined PEU, as people's subjective appraisal of performance and effort; usually discrepancies exist between people's judgment and actual performance. Carolina L. -N. *et al.* (2008) also said that PEU is dependent on technology and user skills, explicit opinions expressed by others will affect it.

Attitude Toward Using：

I. Ajzen (1991) defined an attitude as the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior.

C. -L. Hsu *et al.* (2008) argued that ease of use was another essential factor. Indeed, an easy-to-use interface could influence a user's preference while difficulties can create user resistance. This reinforces the general beliefs that blog-hosting service providers should continue to develop tools that require minimum effort to learn and use.

In fact, most studies on technology acceptance showed that PEU directly influenced PU and attitude towards use. (Y. -C. Huang, 2006; J. Schepers, and M. Wetzels, 2007; T. G. Kima *et al.*, 2008; Il Im *et al.*, 2008), and these literatures also said that PEU directly influenced attitude towards use. So the study hypothesized as following:

***H*$_1$:** Perceived ease of use has positive affected on perceived usefulness.
***H*$_2$:** Perceived ease of use has positive affected on user attitudes toward using blog.
***H*$_3$:** Perceived usefulness has positive affected on user attitudes toward using blog.

2-2-3 Summary

About TAM, the study read many references, and read many variables that relation between perceived usefulness, perceived ease of use, and attitude. We know that blog's appeared by technology, and it became the culture of on-line gradually. So we want to explore users' using attitude by the three variables.

2-3 Innovation Diffusion Theory, (IDT)

The Innovation Diffusion Theory was introduced in 1962 by Rogers and was applied in important research into the Marketing Domain. However rapid changes in the technological environment, the appearance of new products, and high tech development and innovation forced many traditional industries to follow the trend in order to continue operating and growing. The use of the IDT concept facilitated advance in different industrial domains and can be usefully applied in other research.

About innovation, it is defined in difference ways. Schumpeter, J. A. (1984) and Pavitt, K. (1984) defined innovation as a process encompassing the development of new ideas into marketable products/processes. In line with the foregoing definition, Freeman, C. (1974) described innovation as a process comprising technical design, management, and commercial activities of new (or improved) products.

Diffusion is the stage at which a product or process becomes more widely available within a population. Rogers (1983) defined diffusion as the process by which an innovation is communicated through certain channels, over time among the members of a social system.

2-3-1 Characteristic of IDT

In the innovation studies literature, Rogers used well-established theories in sociology, psychology, and communications to develop an approach to study the diffusion of innovations (J. Wonglimpiyarat, and N. Yuberk, 2005). Darley and Beniger (1981), however concluded on the basis of a literature review that the five innovation

attributes formulated by Rogers (1995) are too general to predict the diffusion of energy conservation innovations.

The characteristics of an innovation, as perceived by the members of a social system, determine its rate of adoption. The characteristics that determine an innovation's rate of adoption are: (Rogers, E. M., 1995; Rogers, E. M., 2002) (1) Relative advantage, (2) Compatibility, (3) Complexity, (4) Trialability, and (5) Observability.

Rogers (2002) defined the five characteristics paraphrased below:

1. ***Relative Advantage:*** the degree to which an innovation is perceived as better than the idea it supersedes.
2. ***Compatibility:*** **t**he degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters.
3. ***Complexity:*** the degree to which an innovation is perceived as difficult to understand and use.
4. ***Observability:*** the degree to which the results of an innovation are visible to others
5. ***Trialability:*** the degree to which an innovation may be experimented with on a limited basis.

But Rogers' model does have shortcomings. It does not recognize enough the role of perceptions different actors have about the technology. Moreover, the importance of constant communication among those involved in the decision to use (or not use) a technology is downplayed. Social acceptance of technology is also based upon "the communication and exchange of information between partners" (Walter, J., 2000). The study combines TAM to explore the interpersonal interaction on web and understand their perceived on using blog.

2-3-2 Adopted variables

A survey of the TAM and IDT literature revealed similarities between the two theories. TAM and IDT are amongst the most influential theories for explaining and predicting system use and the adoption of innovation. Although they originate from different disciplines, TAM and IDT have some obvious similarities. The relative advantage construct in IDT is often viewed as the equivalent of PU construct in TAM, and the complexity construct in IDT is very similar to the PEU concept in TAM (Moore and Benbasat, 1991, 1996; G. Premkumar, K. Ramamurthy, and Hsin-Nan Liu, 2008). Two points became clear after a study of Y. C. Liao (2006) compiled literature:

1. Affected attitudinal factors can be derived from innovative characteristics.
2. The factors that influenced consumers in their adoption of information technology behavior were: relative advantage, compatibility and complexity. Attitude can deconstructed from these factors.

This study will treat relative advantage and complexity. Then observability and trialability will be added to study the attitudes of Bloggers. But compatibility will not be included because it was not found to have an effect.

Relative advantage, complexity, observability and trialability are the important characteristics in IDT, and relative advantage and complexity are similarities it has with PU and PEU. So the framework is Figure 6:

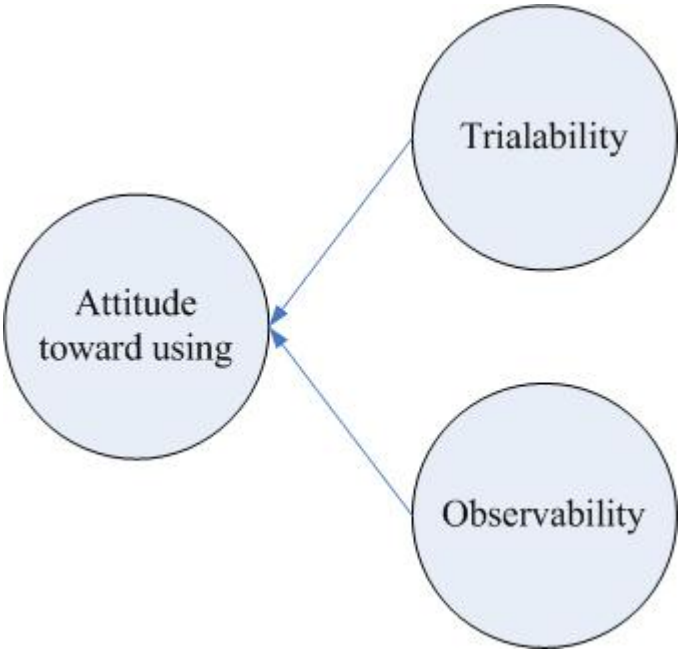

Figure 6. Adopted variances model (IDT)

To collect references and define the two variables for the study.

Trialability：

J. Williams (2008) said that trialability is the degree to which an innovation may be experimented with on a limited basis and he also said that an innovation that is trialable represents less uncertainty to the individual considering adoption. Thus the ability to try an innovation for a trial period increases rate of adoption. T. Vollink, R. Meertens, and Cees J. H. Midden. (2002) also said that trialability is the degree to which an innovation can be experimented with on a limited basis. S. Chakravarty and A. Dubinsky (2005) said that trialability allows individuals to do a ‘‘try and buy’’: if trialing the innovative idea, practice, or product seems to satisfy individuals’ needs, then they are likely to adopt it; if not, they will probably reject the innovation.

Observability：

J. Williams (2008), and T.Vollink *et al.* (2002) defined that observability is the degree to which an innovation is visible to potential adopters. And Jo Williams

considered that the easier it is for potential adoptees to see the results of the innovation, the more likely they are to adopt and the faster the adoption rate. S. Chakravarty *et al.* (2005) mentioned about innovations that are not readily (or less readily) observable have greater diffusion and adoption problems.

This study attempts an innovative construct to apply to Blogs and Bloggers to examine User attitude and the following hypothesis is offered:

H_4：Trialability has positive affected on user attitudes toward using blog.

H_5：Obervability has positive affected on user attitudes toward using blog.

2-3-3 Summary

When the development of individual knowledge is diffused throughout the network, learning at system level takes place, which greatly enhances technology development and diffusion (Marko P. Hekkert, Robert Harmsen, Arjen de Jong, 2007).Since well-performing innovation systems are crucial for the possible success of innovations, policy should be focusing on strengthening innovation system performance. (Marko *et al.*, 2007)

From 2004 the way software developers and users approached the Internet changed and this change is now referred to as Web 2.0. The actual technology is the same, only the way the web is utilized has been upgraded. This technological innovation is important and allows Internet contributors and readers to interact. Internet service providers are now closer to the heartbeat of the market and in more frequent contact with users.

2-4 Concept Model

D. A. Adams, R. R. Nelson, P. A. Todd (1992) did look at several technologies—e-mail, voice mail, word processor, spreadsheet, and graphics software. They found that effects of PU and PEU on BI for those technologies differed substantially. They argued that it may have been because the importance of PEU diminished as users gained experience with the technology.

Now we also explore the technology on Blog. But we explore the effects of PU and PEU on Attitude toward using blog combining Trialability and Observability. As shown on Figure 7.

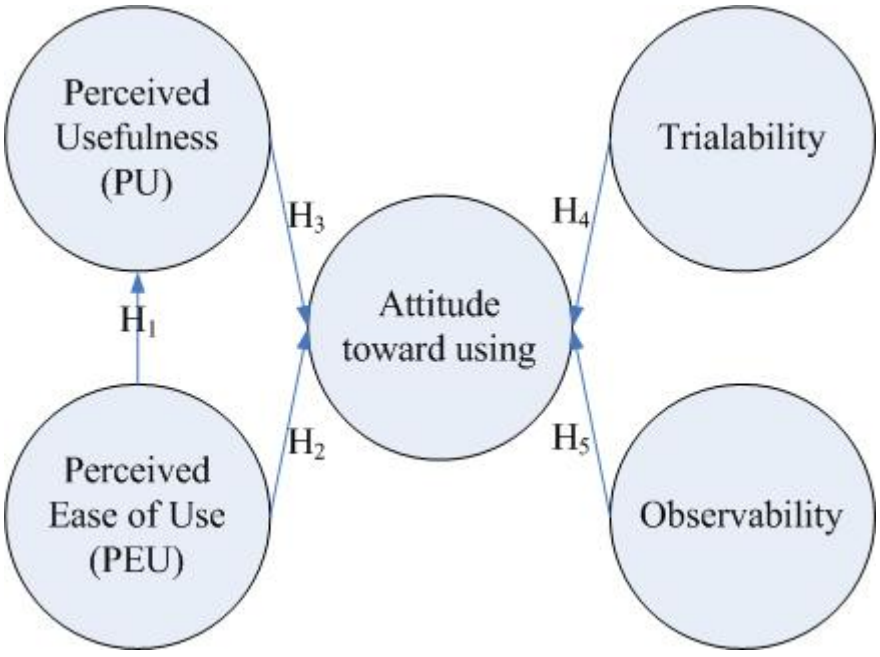

Figure 7. Concept Model

The study's hypothesis as following:

H1 ：Perceived ease of use has positive affected on perceived usefulness.

H2 ：Perceived ease of use has positive affected on user attitudes toward using blog.

H3 ：Perceived usefulness has positive affected on user attitudes toward using blog.

H4 ：Trialability has positive affected on user attitudes toward using blog.

H5 ：Obervability has positive affected on user attitudes toward using blog.

2-4-1 Summary

Table 1, definition of the study according the five variables:

Table 1. Define five variables on blog

Variable	Define on blog
Perceived Usefulness (PU)	It means when users are using blog that they consider their life will give helpful, like the helpfulness of jobs or making friends.
Perceived Ease of Use (PEU)	It means when users are using blog that they consider it good operation
Trialability	It means when you see your relatives and friends are using blog, and that you can operate by yourself, one time you can find its advantages and shortcomings.
Obervability	It means that blog provided functions and Web2.0 interface can be see
Attitude	It means when users have using blog that appear good or bad reaction.

Chapter 3 Methodology

3-1 Reliability analysis

Reliability is also an indicator of convergent validity. Considerable debate centers around which of several alternative reliability estimates is best. Coefficient alpha remains a commonly applied estimate although it may understate reliability. Difference reliability coefficient do not produce dramatically difference results, but a slightly difference construct reliability (CR) value is often used in conjunction with SEM models. It is easily computed from the squared sum of factor loading (λ_i) for each construct and the sum of the error variance terms for a construct (δ_i) as (1):

$$CR = \frac{\left[\sum_{i=1}^{n} \lambda_i\right]^2}{\left[\sum_{i=1}^{n} \lambda_i\right]^2 + \left[\sum_{i=1}^{n} \delta_i\right]} \quad (1)$$

The rule of thumb for either reliability estimate is that 0.7 or higher suggests good reliability. Reliability between 0.6 and 0.7 may be acceptable provided that other indictors of a model's construct validity are good. High construct reliability indicates that internal consistency exists, meaning that the measures all consistently represent the same latent construct.

3-2 Average Variance Extracted, (AVE)

It shows that the items reflect latent variables' ability to be high when the factor loading are more higher of the measurement items, and factor can explain that each observation variable's variation degree is bigger. Thus an average variance extracted (AVE) can be calculated, as (1):

$$AVE = \rho_v = \frac{\sum \lambda_i^2}{(\sum \lambda_i^2 + \sum \Theta_{ii})} \quad (1)$$

Above equation, denominator is that each item's factor loading square plus error equals 1, thus denominator is n as (2):

$$\rho_v = \frac{\sum \lambda_i^2}{n} \quad (2)$$

In other word, ρ_v target is the each item's factor loading square's average of each factor. If cooperate fore-mentioned $\lambda \geqq 0.71$ principle, then ρ_v range is also 0.50. When ρ_v is bigger than 0.50, expressed the latent variables have convergent ability perfectly and operationalization better.

3-2 Confirmatory factor analysis, (CFA)

Confirmatory factor analysis (CFA) enables us to test how well the measured variables represent the constructs. The key advantage is that the researcher can analytically test a conceptually grounded theory explaining how difference measured items represent important psychological, sociological, or business measures. When CFA results are combined with construct validity tests, researchers can obtain a better understanding of the quality of their measures. (Joseph F. Hair, Jr., Willian C. Black, Barry J. Babin, Rolph E. Anderson, and Ronald L. Tatham, 2006)

In CFA, distinguishing between exogenous and endogenous constructs or independent and dependent variables is not necessary. In that sense, it is an interdependence technique. Therefore, the equation is explaining the *x* variables with a latent factor (ξ_1). We could express each measured variable with a *y* and the latent factors with an η. It is more common, however, to represent a measurement model using *x* to abbreviate the measured variables and ξ to represent the constructs. (Joseph F. Hair, *et al.*, 2006)

CFA can regarded as a SEM second model, and can be combined with SEM to make a full model. Therefore, it has been examined for theories and the factors' function has been confirmed (H. W. Cheng，2008).

In this section, the study will focus on TAM and IDT to examine the theoretical model and LISREL8.2 will be used to analyze the relationship between each aspect.

3-3 Importance-Performance Analysis, (IPA)

IPA, first introduced by Martilla and James(1977), and Hansen and Bush (1999) pointed out that IPA is a simple and effective technique that can assist practitioners in identifying improvement priorities for service attributes and direct quality-based marketing strategies. Practitioners apply IPA to analyze two dimensions of service attributes: performance level (satisfaction); and, importance to customers. Analyses of these dimension attributes are then integrated into a matrix that helps a firm identify primary drivers of customer satisfaction and, based on these findings, set improvement priorities (Matzler, K., Bailom, F., Hinterhuber, H. H., Renzl, B., and Pichler, J., 2004).

About IPA that attribute importance is depicted along the *x*-axis and attribute

performance (satisfaction or service quality) is depicted along the *y*-axis (W. Deng, 2007; Raymond K.S. & Chu, T. C., 2000). IPA has four quadrants as shown on Figure 8:

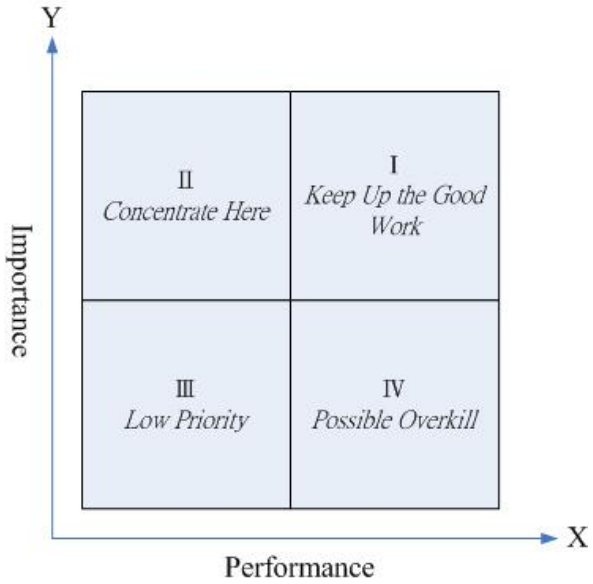

Figure 8. Importance-Performance Analysis grid.

Quadrant I

Both performance and importance are high, indicate opportunities for achieving or maintaining competitive advantage and are major strengths. The management scheme for this quadrant is ‘‘keep up the good work.’’

Quadrant II

Performance is low and importance is high that require immediate attention for improvement and are major weaknesses. The management scheme for this quadrant is ‘‘concentrate here.’’

Quadrant III

Performance and importance are low and that are minor weaknesses and do not require additional effort. The management scheme for this quadrant is ‘‘low priority.’’

Quadrant IV

Performance is high and importance is low, indicate that business resources

committed to these attributes would be overkill and should be deployed elsewhere. These attributes are minor strengths. The management scheme for this quadrant is ‘‘possible overkill.’’

Sources: Hansen, E. *et al.* (1999); Raymond K.S. *et al.* (2000); W. Deng (2007); Wei-Jaw Deng, W. C. Chen and W. Pei(2008).

The study will apply the IPA technique to analyze users’ performance and importance of using blog.

3-4 Structure Equation Modeling, (SEM)

About Structure Equation Modeling (SEM), multivariate technique combining aspects of factor analysis and multiple regression that enables regression that enables the researcher to simultaneously examine a series of interrelated dependence relationships among the measured variables and latent constructs (variates) as well as between several latent constructs. (Joseph F. Hair, *et al.*, 2006)

SEM is a relatively new analytical tool, but its roots extend back to the first half of the twentieth century. SEM’s development originated with the desires of genetics and economics researchers to be able to establish causal relationships between variables. However, the mathematical complexity of SEM limited its application until computers and software became widely available. (Bagozzi, R. P., and L. W. Phillips, 1982; Byrne, B. M., 1998)

The proposed model was evaluated using: SEM, which is a powerful second-generation multivariate technique for analyzing causal models with an estimation of the two components of a causal model: measurement model is estimated

using confirmatory factor analysis (CFA) to test whether the structural model is used to investigate the strength and direction of the relationship between the theoretical construct. (C. L. Hsu *et al.*, 2008)

3-4-1 SEM's equation

Figure 9 is Structure Equation Model. The model include two exogenous latent variablesξ_1 and ξ_2, and two endogenous latent variablesη_1 and η_2. According to the model that ξ_1 is measured by X_1 ,X_2, ξ_2 is measured by X_3 ,X_4, η_1 is measured by Y_1 , Y_2, and η_2 is measured by Y_3 , Y_4. The relationship of latent variable and observed variable is LISREL's "measurement model". And in this model, ξ_1,ξ_2 effected η_1, ξ_2 effected η_1, and this relation between latent variables is SEM's "structural model". Table 2 is each variable's explanation.

According to theories that SEM can show by three equations as follow:

1. $\eta = \mathrm{B}\eta + \Gamma\xi + \zeta$ ……. Exogenous latent variable and endogenous latent variable's structural model (1)

Equation 1 is latent variable model that represent the relation between latent variables, and link endogenous variable with exogenous variable by B, Γ, and SEM's ζ.

B: The B represents the parameter coefficients that link endogenous constructs with other endogenous constructs.

Γ: The Γ is the corresponding matrix of parameter coefficients linking the exogenous constructs (η) with the endogenous constructs (η)

2. $y = \Lambda_y \eta + \varepsilon$ ……Endogenous variable's measurement model (2)

3. $x = \Lambda_x \xi + \delta$ ……Exogenous variable's measurement model (3)

Once values for η are known, we can also predict the y variables using on equation 2. Again, the expected value of ε is 0. Predicted values for each y (y_1-y_n) can be computed similarly. Predicted values for each x also can be computed in the same manner using the equation 3.

Λ_x: The Λ_x is the corresponding matrix of factor loading linking endogenous observed variables with endogenous latent variable.

Λ_y: The Λ_y is the corresponding matrix of factor loading linking exogenous observed variables with exogenous latent variables.

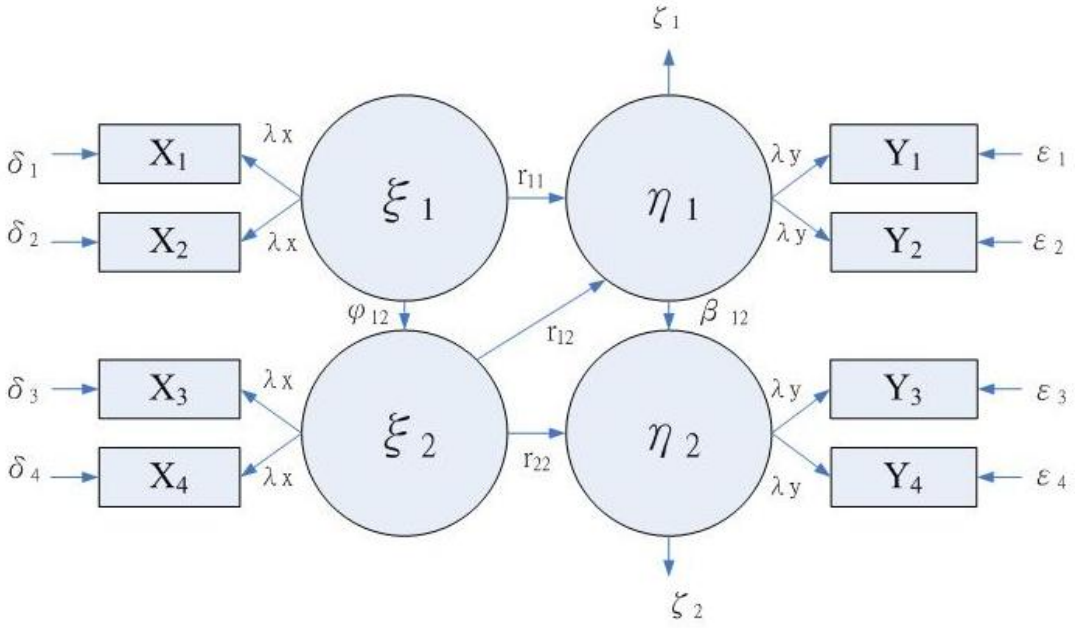

Figure 9. Structure Equation Model

Table 2. SEM's variables explanation

Symbol	Meaning
X	Independent variable
Y	Dependent variable
ξ (ksi)	A construct associated with measured X variables
η (eta)	A construct associated with measured Y variables
δ(delta)	The error term associated with an estimated, measured x variable
ε (epislon)	The error term associated with an estimated, measured y variable
λ (lambda)	A path representing the factor loading between a latent construct
(λ_x,λ_y)	and a measured x or y variables
γ (gamma)	A path representing a causal relationship (regression coefficient) from a ξ to an η.
ψ (phi)	A path represented by an arced two headed arrow representing the covariation between one ξ and another
β (beta)	A path representing a causal relationship (regression coefficient) from oneη construct to another η construct

Source: Joseph F. Hair *et al.*, 2006

Chapter 4 Data collection

4-1 Questionnaire design

We used a questionnaire to determine all research variables using multiple-item scales. It was adapted from prior studies with minor wording changes to make them suitable for the Blog context. The scales for TAM and IDT's PU, PEU, trialability and obervability were measured using items adapted from TAM and IDT's studies.

The survey had three major sections:

1. The first section dealt with the experience of using a Blog, and contained IPA to determine user satisfaction and importance.
2. The second section contained 22 items measuring the determinants of TAM and IDT. All items in this section were coded on 7-point Likert Scale ranging from 'strongly agree' to 'strongly disagree'.
3. The third section contained demographic information about the respondents, including gender, age, student status, career, marital status, income and location.

4-1-1 TAM and IDT's questionnaire design

The questionnaire included 22 items to measure the determinants of TAM and IDT. See Table 3 and Table 4.

Table 3. The questionnaire of Technology Acceptance Model (TAM)

Latent variable Technology Acceptance Model		Reference
Perceived Usefulness (PU)：		T. T. Wang, 2006 Davis *et al.*,1989 Moore & Benbasat,1991 Y. M. Huang, 2006
1	*Blog provides the useful messages and help me have abundant knowledge.*	
2	*Using blog on my job is useful.*	
3	*To use blog on communicating and changing messages with friends that my mind and feeling could be understood easily.*	
4	*To summarize, blog is useful for me on Internet to communicate.*	
Perceived Ease of Use (PEU)：		
1	*To learning operation blog is easily for me.*	T. T. Wang, 2006 Moore & Benbasat,1991 Y. M. Huang, 2006
2	*The functions are easily, and hyperlink is clearly on blog.*	
3	*The process of using blog is easy understood for me on every procedure and the interface's operating.*	
4	*To summarize, I believe that blog is used easily.*	

Table 4. The questionnaire of Innovation Diffusion Theory (IDT)

	Latent variable Innovation Diffusion Theory	Reference
Trialability：		
1	*I can join the blog 's free member and test its relevant functions.*	I. Brown, Zaheeda Cajee, Davies, Shaun Stroebal, 2003 Y. C.Liao, 2006
2	*Blog provides enough space that can let me test its various functions.*	
3	*The process when I using blog that I can found its multiplicity functions.*	
4	*To summarize, when I using blog that I found it provided multiple and convenient functions.*	
Observability：		
1	*I can talk to somebody about blog's functions.*	C. H. Hsieh, 2004
2	*Blog is common, when I read on the internet.*	Davis *et al.*,1989
3	*I can found what I want to write and read from various blogs which show various styles.*	
4	*I can from various blogs to know which blogs were most people used.*	
5	*To summarize, I hope that I can found the blog what I want to write and read by observing.*	
Attitude Toward Using：		
1	*I am interesting for using blog's various functions and its service.*	Y. C. Huang, 2006 Y. C. Chang, 2006
2	*I like using blog to do my leisure time and pastime, or do the medium to promote my job achievements.*	

Table 4. The questionnaire of Innovation Diffusion Theory (IDT) (Continue)

	Latent variable Innovation Diffusion Theory	Reference
Attitude Toward Using：		
3	*I am interesting for writing and reading on the Internet than on the books.*	
4	*To use blog's times will affect me reusing.*	
5	*To summarize, its evaluation is positive to use blog for me.*	

4-1-2 IPA questionnaire design

The IPA questions originated from suggestions made by many different people including students of publishing and cultural enterprise management studies, bloggers[1] and PCuSER (2006). As shown in Table 5 and the part is explored writers' feeling on blog's importance and performance when they use the functions.

[1](2008.07.14)，http://www.wretch.cc/blog/garphie。
(2008.06.21)，http://www.wretch.cc/blog/hugo1005。
(2008,07,10)，http://www.wretch.cc/blog/fjumonkey。
(2008.07.10)，http://www.wretch.cc/blog/gradlive。
(2008.06.20)，http://simplement.pixnet.net/blog。
(2008.07.12)，http://www.wretch.cc/blog/meli。

Table 5. IPA questionnaire design

Blog's functions
1. Blog's interface is smooth.
2. Blog provides multiplicity functions.
3. Blog provides multiplicity type of interface.
4. Blog's web space is enough using.
5. Blog grammar's limitation is widespread.
6. To subscribe RSS
7. Teaching is clearing.
8. *To provide upload functions.*
Future functions' importance
1. Blog provides immediate messenger itself.
2. Blog provides web cam that can increase writers and readers' interaction.
3. Blog provides writers painting with hand to write diary and readers leave messenger.
4. To provide function that can download whole albums.
5. To share resources between blogs. (ex: to share between Wretch and Yahoo's resources)
6. *Blog provide hyperlink to anther website to shop, and cooperate with dealers.*

4-2 Data collection

To examine the relationship between TAM and IDT, and explore the attitude of subjects that both wrote to and read Blogs.

To test the hypotheses, the study's questionnaire was presented in two ways:

1. As an online field survey: this was conducted using a questionnaire designed to be placed on a web site by CVS, see Figure.10 The questionnaire was posted and available between November 17 and December 31, 2008
2. As a printed questionnaires distributed by a major university in the south. The research period was from October 19 to 24, 2008

Data was collected by a web survey located on a portal, http://210.17.21.66/CVSVote3.htm. In order to increase the response rate of blog participants, we placed messages about the survey on more than ten online message boards that had heavy traffic:

- Google (http://blogsofnote.blogspot.com/)
- MSN (http://home.live.com/)
- PChome (http://mypaper.pchome.com.tw/)
- Xuite (http://blog.xuite.net/)
- Yahoo (http://tw.blog.yahoo.com/)
- Wretch (http://tw.blog.yahoo.com/)
- PIXNET (http://www.pixnet.net/)
- Roodo (http://blog.roodo.com/)
- Sina (http://blog.sina.com.tw/)

The survey notice was left on these boards, and some others, for a month and a half. I also posted messages about the survey on my own blogs. See Figure 11 and Figure 12.

The samples: 729 on-line questionnaires and 221 printed ones were returned. Of this 950 total returned, 900 were effectively useable.

Figure 10. An online field survey

Source: http://210.17.21.66/CVSVote3.htm

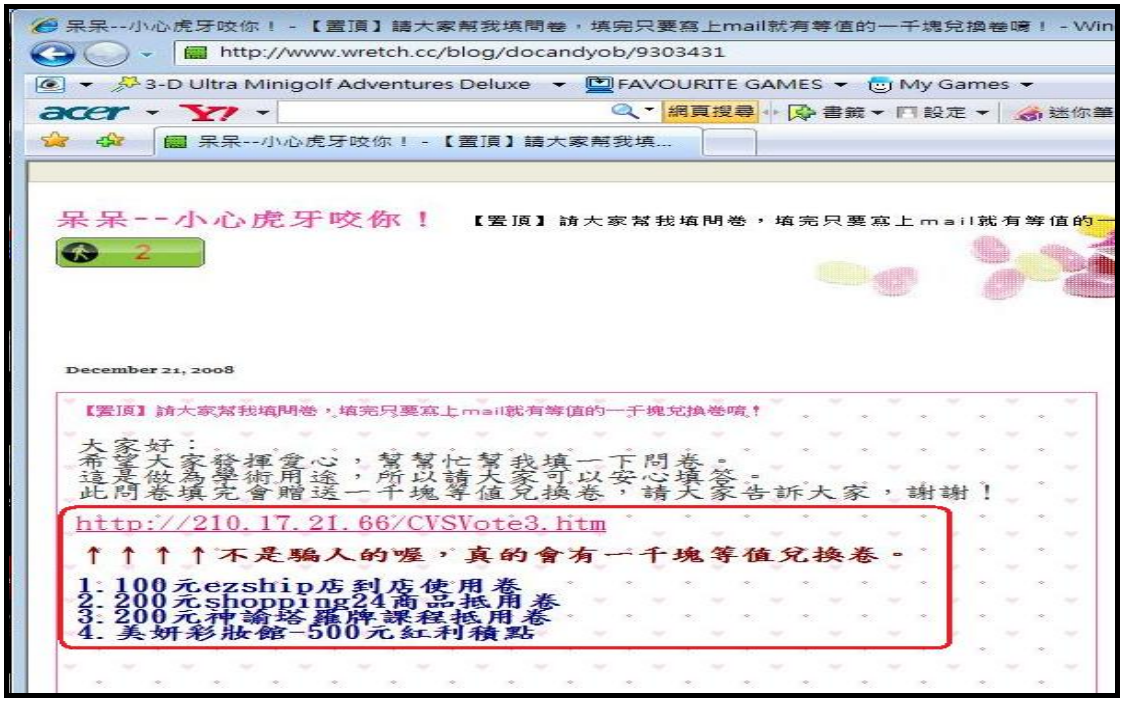

Figure 11. My Blog on Wretch

Source: http://www.wretch.cc/blog/docandyob/9303431

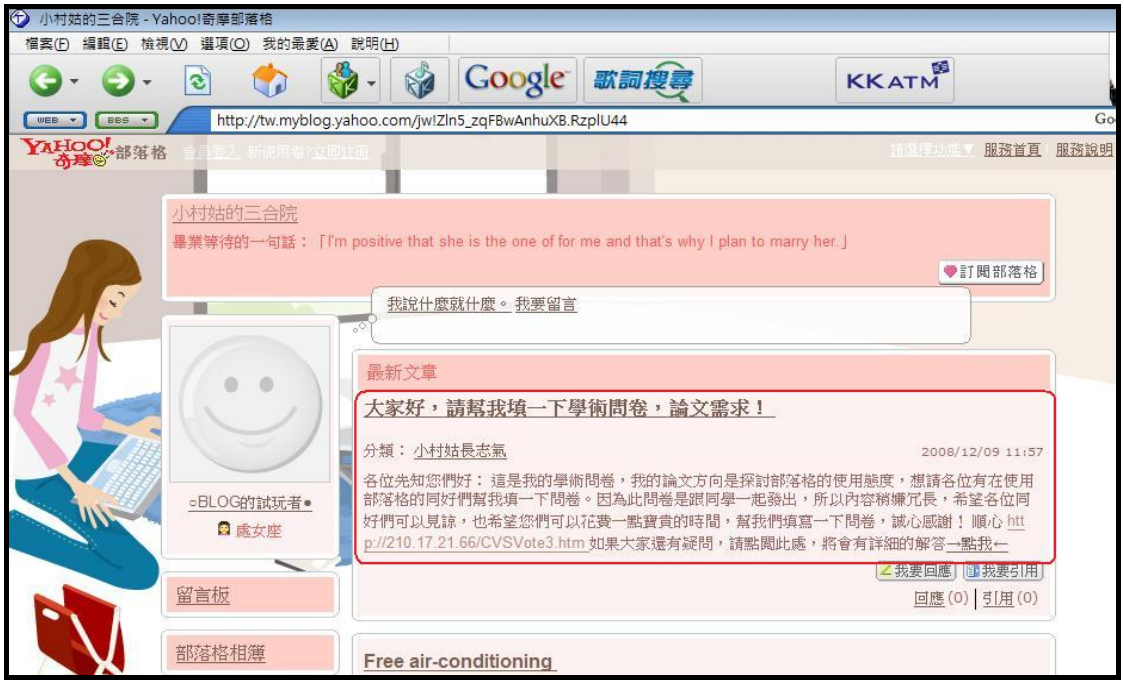

Figure 12. My Blog on Yahoo

Source:

http://tw.myblog.yahoo.com/jw!Zln5_zqFBwAnhuXB.RzplU44/article?mid=35&next=34&l=f&fid=6

Chapter 5 Analysis and Result

5-1 Descriptive statistics analysis

5-1-1 Demographic Characteristics

The overall amount of data in this analysis dataset is 971 including 71 non-returns and 900 returns. Analysis of the respondents: 70.1% are female; 46.3% are in the 21-25 age groups; 69.8% are in college; most are students 51.3%; 85.7% are single; 65.8% of the respondents had not incomes in excess of 20,000 NTD and 45.6% respondents live in the south. See Table 6.

Experience with Blogs: 49.0% have been using the Internet for more than 7 years; 62.6% are in the 3 hours and over Internet access time groups; 79.3% have their own Blogs and 63.3% are using Wretch. 54.1% of the respondents were in the 30 minutes and over reading and writing Blog time groups and 77.8% had experience in writing Blogs, see Table 7.

We can also see from Table 8 that we found most writers' classification about top 3 were:

(1) Mood class group are 47.7%.

(2) Private class space group are 10.6%.

(3) Entertainment class group are 9.2%.

And most readers' classified top 3 were:

(1) Entertainment class group are 18.9%

(2) Mood class group are 11.1%

(3) Private space class group are 10.5%.

But summarizing the data we see that (39.6%) of writers and readers are in the mood class, see Table 7. And the three groups: mood, private space, and entertainment are often using by writers and readers.

Table 6. Demographic Characteristics

Classification	***Number Of respondents***	***Percentage***	***Classification***	***Number Of respondents***	***Percentage***
Gender			***Occupation***		
Male	269	29.9	Agriculture and		
Female	631	70.1	pasturage etc.	7	0.8
Location			Manufacturing	49	5.4
North	278	30.9	Service	94	10.4
Middle	177	19.7	Freedom	33	3.7
South	410	45.6	Student	462	51.3
East	22	2.4	Education	63	7.0
Of-shore island	5	0.6	Government		
Other	8	0.9	workers	11	1.2
			Electronics	40	4.4
			Soldier	35	3.9
			Housewife	34	3.8
			Other	72	8.0

Table 6. Demographic Characteristics (Continue)

Classification	*Number Of respondents*	*Percentage*	*Classification*	*Number Of respondents*	*Percentage*
Age			***Marriage***		
Under 20	190	21.1	Single	771	85.7
21-25	417	46.3	Marriage		
26-30	152	16.9	(no children)	103	11.4
31-35	90	10.0	Marriage		
36-40	32	3.6	(have children)	26	2.9
41-45	11	1.2	***Revenue***		
Old then 46	8	0.9	Under 20,000	592	65.8
Education			20,001-30,000	149	16.6
Under high	36	4.0	30,001-40,000	77	8.6
school	103	11.4	40,001-50,000	51	5.7
High school			Over 50,001	31	3.4
College	628	69.8			
Research					
institute	133	14.8			

Table 7. Experience of Internet access, and using blog

Classification	***Number of respondents***	***Percentage***	***Classification***	***Number of respondents***	***Percentage***
Internet access experience			***To often read and write article' classification***		
Under 1 year	54	6.0			
1-2 years	74	8.2	Entertainment	98	11.4
3-4 years	143	15.9	Financial	20	2.3
5-6 years	188	20.9	Family life	22	2.6
7 years up	441	49.0	Food	36	4.2
Internet access time			Health	8	0.9
			Life	16	1.9
Under 30 minutes	22	2.4	Digital life	2	0.2
30-60 minutes	84	9.3	Sport	22	2.6
1-2 hours	231	25.7	Art	25	2.9
3-4 hours	204	22.7	Public theme	4	0.5
4 hours up	359	39.9	Game	13	1.5
To often read and write blog's platform			Esthetics	5	0.6
			Education	10	1.2
			Image create	10	1.2
Google	13	1.5	Pet	27	3.1
Msn	48	5.4	Video	22	2.6
PChome	9	1.0	Mood	341	39.6
Xuite	29	3.3	Technology	7	0.8
Yahoo	134	15.1	Photography	12	1.4
Wretch	560	63.3	Travel	7	0.8
PIXNET	27	3.1	Job	4	0.5

Table 7. Experience of Internet access, and using blog (Continue)

Classification	*Number of respondents*	*Percentage*	*Classification*	*Number of respondents*	*Percentage*
To often read and write blog's platform			***To often read and write article' classification***		
Roodo	5	0.6	Fashion	39	4.5
Sina	3	0.3	Schoolyard	20	2.3
Other	57	6.4	Private space	91	10.6
To read and write blog's time			***To play role on the blog***		
Under 30 minutes	413	45.9	Writer		
30-60 minutes	332	36.9	(even read)	254	28.2
1-2 hours	120	13.3	Reader		
3-4 hours	18	2.0	(even write)	446	49.6
4 hours up	17	1.9	Only read	200	22.2
			Own blog		
			Yes	714	79.3
			No	186	20.7

Table 8. Blog article' classification of writer and reader

Article' classification						
	Writer			***Reader***		
	Number of respondents	***percentage***	***rank***	***Number of respondents***	***percentage***	***rank***
Entertainment	62	9.2	3	36	18.9	1
Financial	13	1.9		7	3.7	
Family life	13	1.9		9	4.7	
Food	18	2.7		18	9.5	
Health	3	0.4		5	2.6	
Life	8	1.2		8	4.2	
Digital life	2	0.3		0	0	
Sport	13	1.9		9	4.7	
Art	18	2.7		7	3.7	
Public theme	3	0.4		1	0.5	
Game	7	1.0		6	3.2	
Esthetics	4	0.6		1	0.5	
Education	5	0.7		5	2.6	
Image create	9	1.3		1	0.5	
Pet	24	3.6		3	1.6	
Video	12	1.8		10	5.3	
Mood	320	47.7	1	21	11.1	2
Technology	5	0.7		2	1.1	
Photography	10	1.5		2	1.1	
Travel	5	0.7		2	1.1	
Job	2	0.3		2	1.1	
Fashion	27	4.0		12	6.3	

Table 8. Blog article' classification of writer and reader (Continue)

Article' classification						
	Writer			***Reader***		
	Number of respondents	***percentage***	***rank***	***Number of respondents***	***percentage***	***rank***
Schoolyard	17	2.5		20	1.6	
Private space	71	10.6	2		10.5	3

5-1-2 Multiple response

According to the above data multiple response is as follows.

For the respondent data shown in Table 9 mail (14.0%) finding data (13.1%) and watching news (11.9%) are the top three reasons for Internet access. After this comes the use of Blogs (10.1%) at top 5; always reading and writing on a Blog platform, Wretch (40.3%),Yahoo (22.1%) and then Xuite (9.0%); always reading and writing article classification, mood (14.2%), entertainment (12.4%), and then private space (8.0%).

From Table.10 it can be seen that: Men always watch news, receive mail, and then find data by Internet access and Blog use is top 7; women always receive mail, find data, and then watch news by Internet access and Blog usage is top 4.

Table 9. Experience of Internet access, and using blog-- Multiple Response

	Number of respondents	***percentage***		***Number of respondents***	***percentage***
What are you doing when you Internet access			***To always read and write article' classification***		
Watch news	576	11.9			
Mail	680	14.0	Entertainment	428	12.4
Make friends	95	2.0	Financial	69	2.0
Talk	512	10.6	Family life	137	4.0
Play game	360	7.4	Food	251	7.3
Pay money	78	1.6	Health	65	1.9
BBS	194	4.0	Life	177	5.1
Shopping	447	9.2	Digital life	72	2.1
Find data	637	13.1	Sport	87	2.5
Download data	438	9.0	Art	138	4.0
Blog	490	10.1	Public theme	35	1.0
Listen to broadcast and music	251	5.2	Game	91	2.6
			Esthetics	60	1.7
Other	89	1.8	Education	59	1.7
To always read and write blog's platform			Image create	62	1.8
			Pet	95	2.8
Google	50	2.9	Video	187	5.4
Msn	138	8.0	Mood	491	14.2
PChome	61	3.5	Technology	59	1.7
Xuite	155	9.0	Photography	51	1.5
Yahoo	380	22.1			

Table 9. Experience of Internet access, and using blog-- Multiple Response (Continue)

	Number of respondents	***percentage***		***Number of respondents***	***percentage***
To always read and write blog's platform			***To always read and write article' classification***		
Wretch	694	40.3			
PIXNET	122	7.1			
Roodo	23	1.3	Travel	120	3.5
Sina	20	1.2	Job	78	2.3
Other	79	4.6	Fashion	168	4.9
			Schoolyard	195	5.7
			Private space	276	8.0

Table 10. Males and Females' experience of Internet access, and using blog-- Multiple Response Crosstabs

	Male	*%*	*Female*	*%*		*Male*	*%*	*Female*	*%*
What are you doing when you Internet access					***To always read and write article' classification***				
Watch news	184	68.4	392	62.1					
Mail	178	66.2	502	79.6	Entertainment	135	50.2	293	46.4
Make friends	42	15.6	53	8.4	Financial	25	9.3	44	7.0
Talk	163	60.6	349	55.3	Family life	34	12.6	103	16.3
Play game	143	53.2	217	34.4	Food	53	19.7	198	31.4
Pay money	23	8.6	55	8.7	Health	16	5.9	49	7.8
BBS	78	29.0	116	18.4	Life	49	18.2	128	20.3
Shopping	93	34.6	354	56.1	Digital life	47	17.5	25	4.0
Find data	171	63.6	466	73.9	Sport	64	23.8	23	2.6
Download data	166	61.7	272	43.1	Art	33	12.3	105	16.6
Blog	129	48.0	361	57.2	Public theme	19	7.1	16	2.5
Listen to broadcast and					Game	56	20.8	35	5.5
music	85	31.6	166	26.3	Esthetics	17	6.3	43	6.8
Other	29	10.8	60	9.5	Education	20	7.4	39	6.2
To always read and write blog's platform					Image create	19	7.1	43	6.8
					Pet	21	7.8	74	11.7
					Video	58	21.6	129	20.4
Google	21	7.8	29	4.6	Mood	128	47.6	363	57.5
Msn	35	13.0	103	16.3	Technology	41	15.2	18	2.9
PChome	15	5.6	46	7.3	Photography	17	6.3	34	5.4
Xuite	42	15.6	113	17.9	Travel	36	13.4	84	13.3

Table 10. Males and Females' experience of Internet access, and using blog-- Multiple Response Crosstabs (Continue)

	Male	*%*	*Female*	*%*		*Male*	*%*	*Female*	*%*
To always read and write blog's platform					***To always read and write article' classification***				
Yahoo	96	35.7	284	45.1					
Wretch	205	76.2	489	77.6	Job	23	8.6	55	8.7
PIXNET	38	14.1	84	13.3	Fashion	44	16.4	124	19.7
Roodo	7	2.6	16	2.5	Schoolyard	60	22.3	135	21.4
Sina	7	2.6	13	2.1	Private space	81	30.1	195	30.9
Other	21	7.8	58	9.2					

5-2 Importance-Performance Analysis, (IPA)

5-2-1 All writers' IPA analysis

As shown in Figure 13 for all the respondents to the IPA analysis, most fall into quadrant Ⅲ (A3, A5, A6, A7), and then quadrant Ⅰ (A1, A2, A8), with just a few in quadrant Ⅳ (A4), but quadrant Ⅱ is empty. On the other hand:

Quadrant Ⅰ： Both performance and importance are high on this quadrant. So Blog can refer to A1, A2, A8 items and keep up the good work.

Quadrant Ⅱ： In this quadrant, performance is low and importance is high, so the items here should be the first to be improved, but the study has no item for this.

Quadrant Ⅲ： Both performance and importance are low in this quadrant. So A3, A5, A6, A7 should be the second to be improved.

Quadrant Ⅳ： Quadrant Ⅲ and quadrant Ⅳ's performance is relative low, but quadrant Ⅳ's importance is relatively high. A4 has importance enough, so that it should be improved first before quadrant Ⅱ and Ⅲ to be more effective and beneficial.

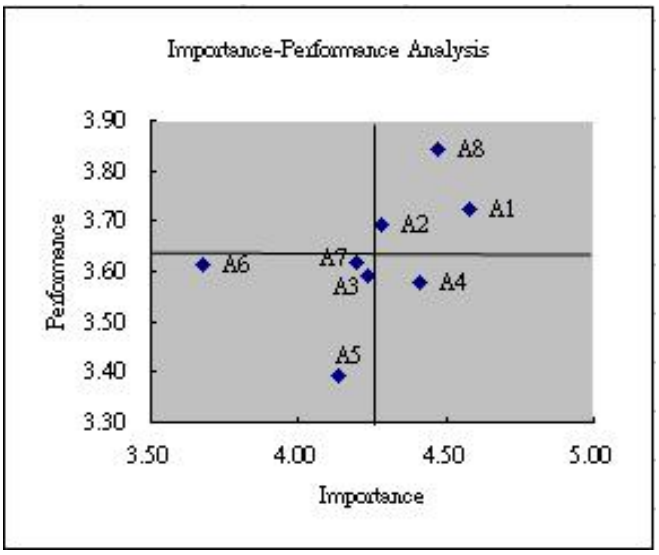

Figure 13. Importance-Performance Analysis (n=700)

Meaning of that A1 to A8:

A1. Blog interface is smooth.

A2. Blog provides multiplicity functions.

A3. Blog provides multiplicity type of interface.

A4. Web space provided by the Blog enough for normal use.

A5. Blog grammar is widely limited.

A6. To subscribe RSS

A7. Teaching is clearing.

A8. Upload functions are provided.

5-2-2 Group IPA into three groups

We group IPA into three groups： Gender, Time, and Top 2 blogs. Table 11 is Independent Samples t test

1. Gender: A2, A4, A5, A7, and A8 are in the same quadrant, but their

importance is significantly different. A3 is in another quadrant, and shown significant differences between females and males. (Figure 14, and Figure 15,)

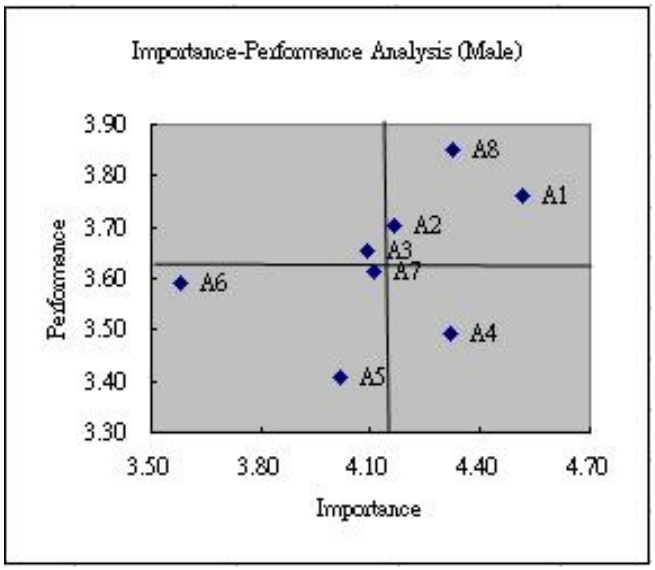

Figure.14 Males' IPA (n=208)

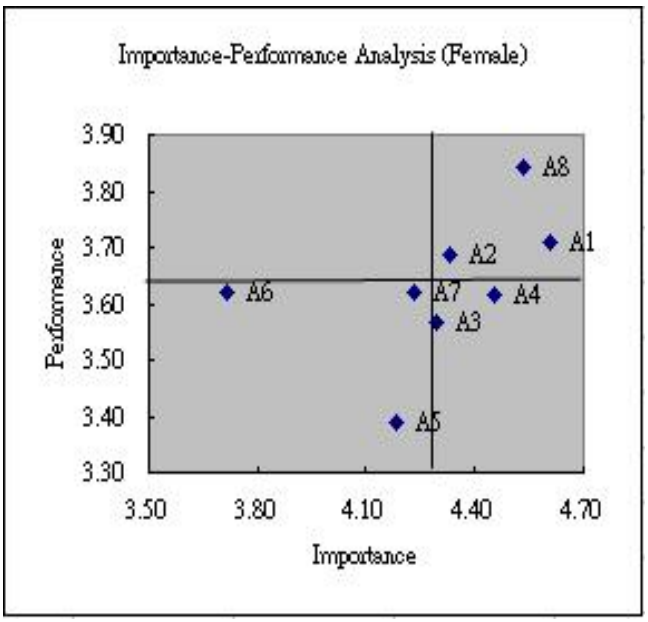

Figure.15 Females' IPA (n=492)

2. Time: We group this using Blog time "under 30 minutes" and "30 minutes and over." The data show that A2 and A7 are in different quadrants, but the importance of A2 is significant difference. A4 is in quadrant Ⅳ, the

importance is high and performance is low, we can improve it before the other quadrants except quadrant Ⅰ. (Figure 16, and Figure 17)

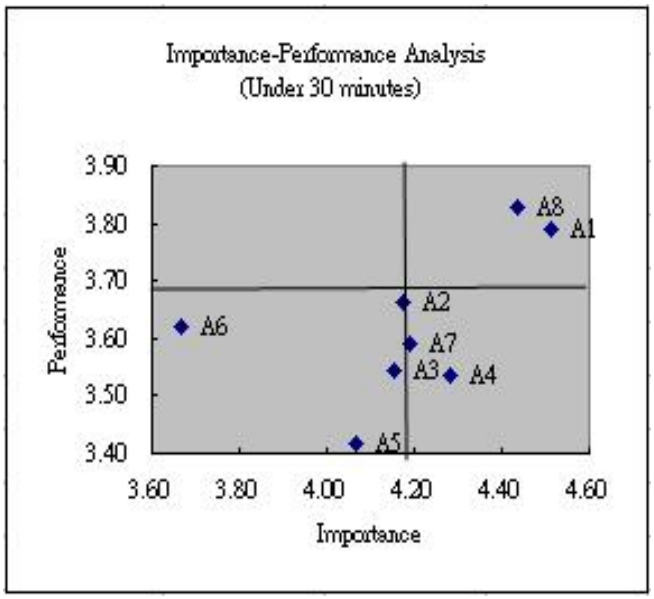

Figure 16. Under 30 minutes IPA (n=265)

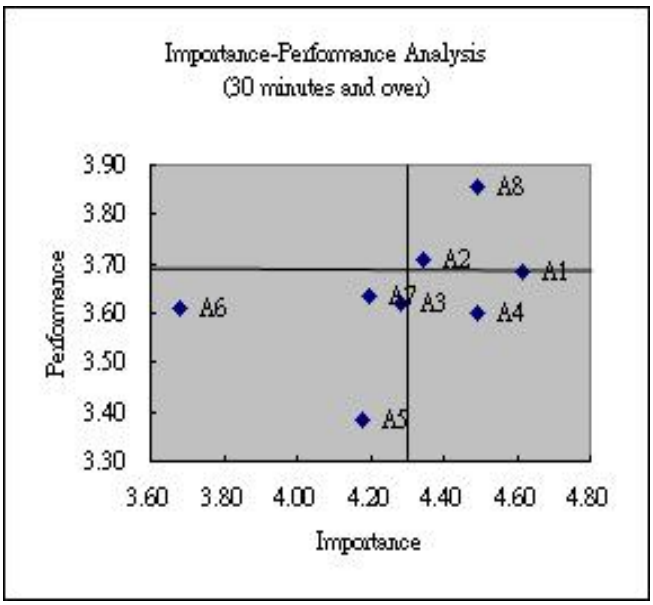

Figure 17. 30 minutes and over IPA (n=435)

3. On top 2 blogs: We compared Wretch and Yahoo's IPA, which have more samples than the other blogs. From the data, A2, A6, and A7 are in different quadrants, but A2 and A6's importance are significantly different between Wretch and Yahoo. Other items, A1's importance and performance, A3, A4 and A8's importance, and A5's performance also have significant differences. (Figure 18, and Figure 19)

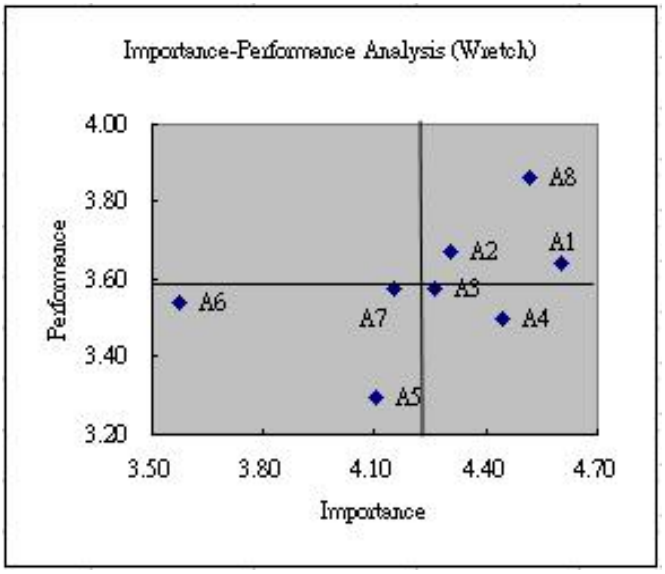

Figure 18. Wretch's IPA (n=468)

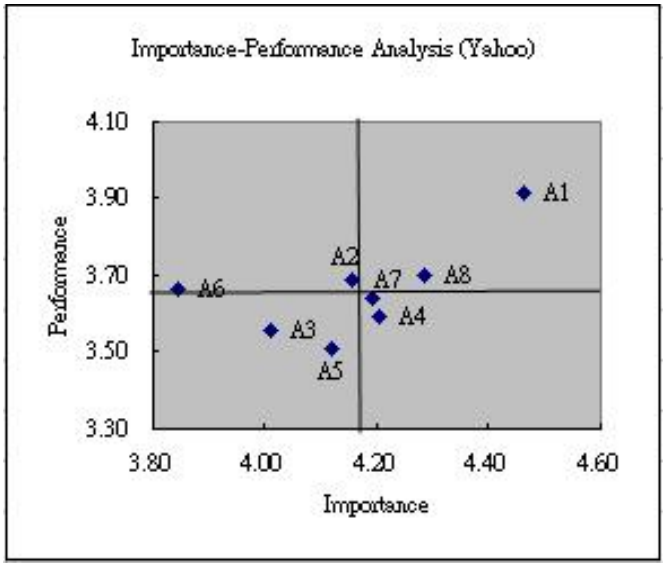

Figure 19. Yahoo's IPA (n=84)

Table 11. Independent Samples t test--IPA

Question		Female (n=492)	Male (n=208)	Mean Difference	*t*-value
A1	Importance	4.61	4.51	-0.09	-1.68
	Performance	3.71	3.76	0.05	0.75
A2	Importance	4.33	4.16	-0.17	-2.63**
	Performance	3.69	3.70	0.01	0.23
A3	Importance	4.29	4.09	-0.20	-3.14**
	Performance	3.57	3.65	0.09	1.19
A4	Importance	4.46	4.32	-0.14	-2.27*
	Performance	3.61	3.49	-0.12	-1.47
A5	Importance	4.18	4.02	-0.17	-2.43*
	Performance	3.39	3.41	0.02	0.27
A6	Importance	3.72	3.58	-0.13	-1.62
	Performance	3.62	3.59	-0.03	-0.49
A7	Importance	4.23	4.11	-0.12	-1.70*
	Performance	3.62	3.62	-0.00	-0.04
A8	Importance	4.53	4.33	-0.21	-3.37**
	Performance	3.84	3.85	0.01	0.13

Table 11. Independent Samples t test --IPA (Continue)

Question		Under 30 minutes (n=265)	30 minutes and over (n=435)	Mean Difference	*t*-value
A1	Importance	4.51	4.62	-0.11	-1.97*
	Performance	3.79	3.69	0.10	1.68*
A2	Importance	4.17	4.35	-0.17	-2.89**
	Performance	3.66	3.71	-0.04	-0.71
A3	Importance	4.15	4.28	-0.13	-2.08*
	Performance	3.54	3.62	-0.08	-1.10
A4	Importance	4.28	4.49	-0.21	-3.55***
	Performance	3.54	3.60	-0.07	-0.92
A5	Importance	4.06	4.18	-0.12	-1.77*
	Performance	3.42	3.38	0.03	0.48
A6	Importance	3.66	3.68	-0.02	-0.24
	Performance	3.62	3.61	0.01	0.16
A7	Importance	4.19	4.20	-0.01	-0.14
	Performance	3.59	3.63	-0.05	-0.68
A8	Importance	4.44	4.49	-0.06	-1.00
	Performance	3.83	3.86	-0.03	-0.42

Table 11. Independent Samples t test--IPA (Continue)

Question		Wretch (n=468)	Yahoo (n=84)	Mean Difference	*t*-value
A1	Importance	4.60	4.46	-0.14	-1.68*
	Performance	3.64	3.92	0.28	2.97**
A2	Importance	4.30	4.15	-0.15	-1.69*
	Performance	3.67	3.69	0.02	0.21
A3	Importance	4.26	4.01	-0.25	-2.69**
	Performance	3.58	3.56	-0.02	-0.17
A4	Importance	4.44	4.20	-0.24	-2.84**
	Performance	3.50	3.60	0.10	0.90
A5	Importance	4.10	4.12	0.02	0.19
	Performance	3.29	3.51	0.22	2.01*
A6	Importance	3.57	3.85	0.27	2.37*
	Performance	3.54	3.67	0.13	1.46
A7	Importance	4.15	4.19	0.04	0.39
	Performance	3.58	3.64	0.07	0.66
A8	Importance	4.52	4.29	-0.23	-2.78**
	Performance	3.86	3.70	-0.16	-1.38

***P<0.001，**P<0.01，*P<0.1

To summarized, the three groups' top 3 are:

On gender：

Male: (1). Importance: A1 (4.51), A8 (4.33), and A4 (4.32).

(2). Performance: A8 (3.85), A1 (3.76), and A2 (3.70).

Female: (1). Importance: A1 (4.61), A8 (4.53), and A4 (4.46).

(2). Performance: A8 (3.84), A1 (3.71), and A2 (3.69).

On time:

Under 30 minutes: (1). Importance: A1 (4.51), A8 (4.44), and A4 (4.28).

(2). Performance: A8 (3.83), A1 (3.79), and A2 (3.66).

30 minutes or more: (1). Importance: A1 (4.62), A8 (4.49), A4 (4.49), and A2 (4.35).

(2). Performance: A8 (3.86), A1 (3.71), and A2 (3.69).

On top 2 blogs:

Wretch: (1). Importance: A1 (4.60), A8 (4.52), and A4 (4.44).

(2). Performance: A8 (3.86), A2 (3.67), and A1 (3.64).

Yahoo: (1). Importance: A1 (4.46), A8 (4.29), and A4 (4.20).

(2). Performance: A1 (3.92), A8 (3.70), and A2 (3.69).

5-2-3 Each blog's importance and performance

To analyze all blogs' importance, as Figure 21 and Table 13：

1. **Google**：A3's importance is highest 4.50, and A6 is lowest 3.93.
2. **Msn**：A1's importance is highest 4.73，A3, and A6 is lowest 4.38.
3. **PChome**：A1's importance is highest 4.71, and A6 is lowest 3.57.
4. **Xuite**：A1's importance is highest 4.32, and A6 is lowest 3.79.
5. **Yahoo**：A1's importance is highest 4.46, and A6 is lowest 3.85.
6. **Wretch**：A1's importance is highest 4.60, and A6 is lowest 3.57.
7. **PIXNET**：A1's importance is highest 4.57, and A6 is lowest 4.05.
8. **Roodo**：A1's importance is highest 5.00, and A5 is lowest 3.80.
9. **Sina**：A1's importance is highest 5.00, and A6 is lowest 3.50.
10. **Other**：A4's importance is highest 4.70, and A6 is lowest 3.70.

To analyze all blogs' performance, as Figure 20 and Table 12：

1. **Google**：A6's performance is highest 4.25, and A3 is lowest 3.17.
2. **Msn**：A8's performance is highest 4.27, and A5 is lowest 3.86.
3. **PChome**：A1's performance is highest 4.17, and A3 is lowest 3.43.
4. **Xuite**：A1's performance is highest 4.00, and A7 is lowest 3.42.
5. **Yahoo**：A1's performance is highest 3.92, and A5 is lowest 3.51.
6. **Wretch**：A8's performance is highest 3.86, and A5 is lowest 3.29.
7. **PIXNET**：A6's performance is highest 3.76, and A1, A5, A7, and A8 is lowest 3.67.
8. **Roodo**：A1, A2, A4, A5, and A6's performance is highest 3.80, and A3 is lowest 2.80.
9. **Sina**：A4, A6, and A7's performance is highest 4.00, and A1, A2, A3, A5, and A8 is lowest 3.50.
10. **Other**：A8's performance is highest 3.82, and A6 is lowest 3.58.

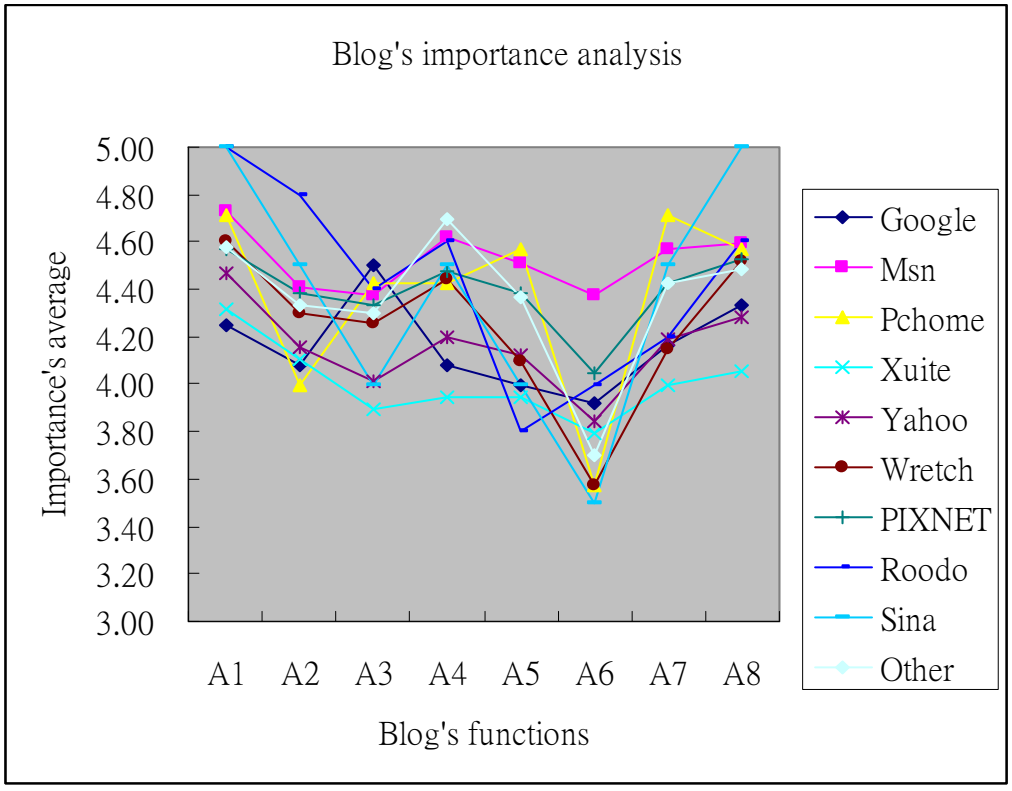

Figure 20. Graph shows importance analysis

Table 12. Importance's average

Blogs	IPA's question (Importance)							
	A1	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**
Google	4.25	4.08	4.50	4.08	4.00	3.92	4.17	4.33
Msn	4.73	4.41	4.38	4.62	4.51	4.38	4.57	4.59
Pchome	4.71	4.00	4.43	4.43	4.57	3.57	4.71	4.57
Xuite	4.32	4.11	3.89	3.95	3.95	3.79	4.00	4.05
Yahoo	4.46	4.15	4.01	4.20	4.12	3.85	4.19	4.29
Wretch	4.60	4.30	4.26	4.44	4.10	3.57	4.15	4.52
PIXNET	4.57	4.38	4.33	4.48	4.38	4.05	4.43	4.52
Roodo	5.00	4.80	4.40	4.60	3.80	4.00	4.20	4.60
Sina	5.00	4.50	4.00	4.50	4.00	3.50	4.50	5.00
Other	4.58	4.33	4.30	4.70	4.36	3.70	4.42	4.48

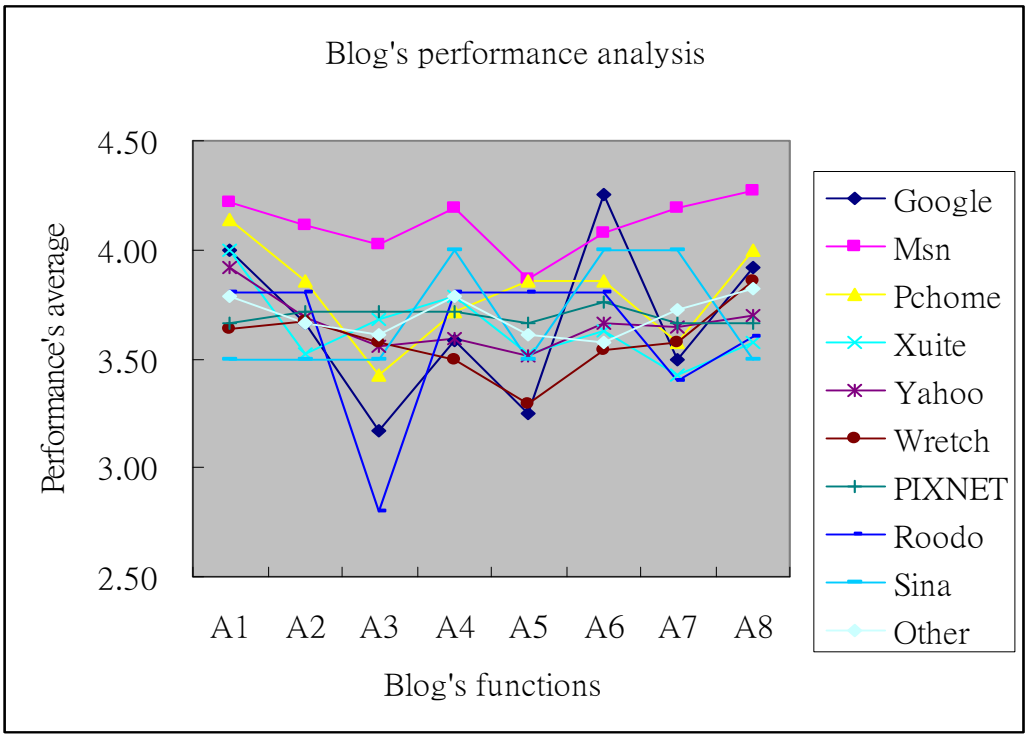

Figure 21. Graph shows performance analysis

Table 13. Performance's average

Blogs	IPA's question (Performance)							
	A1	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**
Google	4.00	3.67	3.17	3.58	3.25	4.25	3.50	3.92
Msn	4.22	4.11	4.03	4.19	3.86	4.08	4.19	4.27
Pchome	4.14	3.86	3.43	3.71	3.86	3.86	3.57	4.00
Xuite	4.00	3.53	3.68	3.79	3.53	3.63	3.42	3.58
Yahoo	3.92	3.69	3.56	3.60	3.51	3.67	3.64	3.70
Wretch	3.64	3.67	3.58	3.50	3.29	3.54	3.58	3.86
PIXNET	3.67	3.71	3.71	3.71	3.67	3.76	3.67	3.67
Roodo	3.80	3.80	2.80	3.80	3.80	3.80	3.40	3.60
Sina	3.50	3.50	3.50	4.00	3.50	4.00	4.00	3.50
Other	3.79	3.67	3.61	3.79	3.61	3.58	3.73	3.82

5-2-4 Importance of blogs' future functions analysis

Further study: an examination of the importance of future Blog functions reveals that the most important of these, to all writers, is the sharing of resources between blogs, seeing Table 14.

Even though males and females both considered that sharing resources between blogs was more important than the others, there is a significant difference between male and female responses. This is also the case with question two where there are significant differences as well.

Concerning the time used for Blogging both groups considered question five to be more important, and question two is significant differences between “under 30 minutes” and “30 minutes or more”. See Table 15.

Table 14. Future functions’ average

Further functions		***Total writers***
1.	Blog provides immediate messenger itself.	3.74
2.	Blog provides web cam that can increase writers and readers’ interaction.	3.33
3.	Blog provides writers painting with hand to write diary and readers leave messenger.	3.87
4.	To provide function that can download whole albums.	3.68
5.	To share resources between blogs. (ex: to share between Wretch and Yahoo’s resources)	4.05
6.	Blog provide hyperlink to anther website to shop, and cooperate with dealers.	3.76

Table 15. Independent Samples t test- Future functions

Questions		***Female (n=492)***	***Male (n=208)***	***Mean Difference***	***t*-value**
1		3.71	3.79	0.08	0.97
2		3.26	3.49	0.23	2.68**
3		3.88	3.86	-0.03	-0.38
4	Importance	3.67	3.71	0.04	0.54
5		4.08	3.97	-0.11	-1.77*
6		3.77	3.75	-0.02	-0.26
Questions		***Under 30 minutes (n=265)***	***30 minutes or more (n=435)***	***Mean Difference***	***t*-value**
1		3.80	3.69	0.11	1.50
2		3.43	3.27	0.17	2.07*
3		3.86	3.88	-0.02	-0.25
4	Importance	3.71	3.66	0.05	0.65
5		4.01	4.07	-0.06	-0.94
6		3.83	3.72	1.11	1.50
*****P<0.001，**P<0.01，*P<0.1**					

5-3 Structural Equation Modeling, (SEM)

To start with a measurement model was developed by conducting confirmatory factor analysis (CFA) to measure convergent and discriminant validity. The structure equation model was then estimated for hypothesis testing. Both the measurement model and the structural model were assessed by the maximum likelihood method using LISREL 8.20.

5-3-1 Analysis of the measurement model

Factor loading is between 0.78~1.03 this is above 0.5, so the variance between these items can be explained. And the study's average variance extracted (AVE) all are above 0.5 which is just above the standard, so the questionnaire has good convergent validity. In other cases the construct reliability values all are above 0.7 and the construct has enough reliability. See Table 16. (Joseph F. Hair *et al.*, 2006)

The original measurement results showed that some values could not be fitted to the index standard, so we amended EFA and CFA by deleting PU3, PU4, PEU1, Tri1, Obser1 and Obser5. The process of amending the model was not expanded in my study. Table 16 shows the discriminant validity of users after the amendment.

Table 16. Internal consistency reliability and convergent validity of the measurement result

Constructs and indicators		***Factor loading***	***t*-value**	***Construct Reliability (CR)***	***Average variance extracted (AVE)***
Perceived Useful (PU)	PU1	0.81	15.88	0.7	0.5
	PU2	0.82	15.86		
Perceived Ease of Use (PEU)	PEU1	0.93	29.53	0.9	0.7
	PEU2	0.87	28.82		
	PEU3	0.86	27.93		
Trialability	Tri1	1.03	36.10	0.9	0.7
	Tri2	0.87	24.97		
	Tri3	0.94	33.53		
Observability	Obser1	0.97	31.87	0.9	0.7
	Obser2	0.89	26.45		
	Obser3	0.86	28.71		
Attitude toward using	Att1	0.87	19.38	0.9	0.6
	Att2	0.94	19.22		
	Att3	0.98	18.98		
	Att4	0.92	19.30		
	Att5	0.78	18.88		
		>0.5	>1.96	>0.7	>0.5

From Table 17 it can be seen that the variance extracted by constructs was greater than any squared correlation among constructs; this implies that constructs were empirically distinct. To summarize, the measurement model test, including convergent and discriminant validity measurements, was satisfactory.

Table 17. Discriminant validity

	Att1	**Att2**	**Att3**	**Att4**	**Att5**	**PEU3**	**PEU2**	**PEU4**	**Tri3**	**Tri2**	**Tri4**	**Obev3**	**Obev4**	**Obev2**	**PU2**	**PU1**
Att1	**1.17**															
Att2	0.90	**1.39**														
Att3	0.83	0.97	**1.57**													
Att4	0.78	0.88	0.96	**1.33**												
Att5	0.67	0.69	0.77	0.76	**1.03**											
PEU3	0.60	0.59	0.62	0.58	0.59	**1.24**										
PEU2	0.63	0.61	0.61	0.60	0.59	0.86	**1.13**									
PEU4	0.62	0.61	0.67	0.64	0.62	0.83	0.70	**1.15**								
Tri3	0.66	0.67	0.69	0.71	0.66	0.65	0.64	0.64	**1.21**							
Tri2	0.58	0.62	0.62	0.67	0.53	0.53	0.50	0.54	0.92	**1.41**						
Tri4	0.65	0.66	0.70	0.69	0.65	0.57	0.64	0.63	0.97	0.78	**1.12**					
Obev3	0.72	0.72	0.79	0.76	0.65	0.60	0.64	0.67	0.79	0.66	0.75	**1.24**				
Obev4	0.73	0.72	0.77	0.73	0.61	0.55	0.61	0.60	0.67	0.62	0.69	0.88	**1.35**			
Obev2	0.64	0.65	0.74	0.70	0.66	0.52	0.55	0.63	0.68	0.61	0.67	0.84	0.75	**1.12**		
PU2	0.51	0.69	0.70	0.53	0.40	0.53	0.49	0.43	0.48	0.42	0.44	0.44	0.47	0.30	**1.64**	
PU1	0.57	0.58	0.58	0.53	0.53	0.50	0.50	0.51	0.56	0.52	0.53	0.57	0.53	0.55	0.67	**1.01**

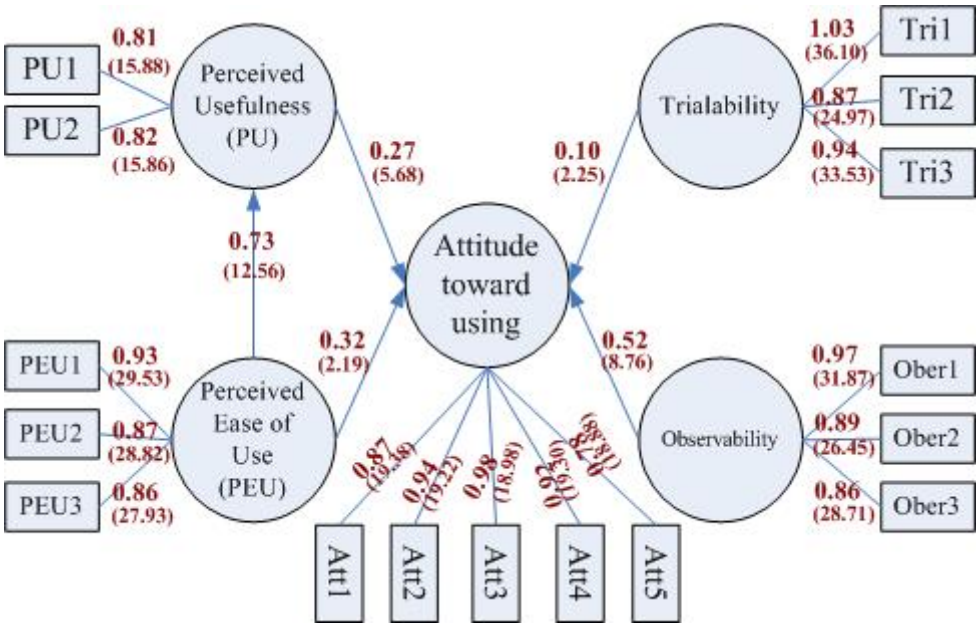

Figure 22. Result of Structural Equation Model

Figure 22. portrays the hypotheses test results and the completely standardized parameters in the proposed structural model. All our hypothesized associations were significant at p=0.00. In general, the study's fit index is, Chi-square/df=6, GFI=0.92, AGFI=0.89, NFI=0.94, NNFI=0.94, IFI=0.95, CFI=0.95, RMSEA=0.075, RMR=0.053. According to these data, it can be shown that each construct relation and the empirical data are fit, see Table 18.

Table 18. Results of reliability and convergent validity test

Fit index	***Value***	***Suggested value***	***Reference***
Chi-square/df	6	<3	Hair *et al*.(1998)
Goodness-Of-Fit Index (GFI)	0.92	>0.9	Hu and Bentler(1999)
Adjusted for the degree of freedom goodness-of fit index (AGFI)	0.89	>0.8	Bagozzi and Yi(1998)
Normed Fix Index (NFI)	0.94	>0.9	Hu and Bentler(1999)
Non-Normed Fit Index (NNFI)	0.94	>0.9	Hu and Bentler(1999)
Incremental Fit Index (IFI)	0.95	>0.9	Hu and Bentler(1999)
Comparative Fit Index (CFI)	0.95	>0.95	Bentler (1995)
Root-Mean-Square Error Of Approximation (RMSEA)	0.075	<0.05	Bagozzi and Yi(1998)
Root-Mean-Square Residual (RMR)	0.053	<1	Hawjeng Chiou (2003)

Table 19 Direct, indirect and total effects of independent variables on attitude toward using blog. PU has direct effects on attitude toward using blog (β=0.27, p<0.05*), PEU has direct effects on attitude toward using blog (β=0.32, p<0.05*), besides PEU has direct effects on attitude that PU has indirect effects on attitude toward using blog by two direct effect's product (0.73*0.27=0.20), trialability has direct effects on attitude toward using blog (β=0.10, p<0.05*), and observability has direct effects on attitude toward using blog (β=0.52, p<0.1). However, PU and trialability were significant determinates of attitude toward using blog.

Table 19. Estimates of the direct and indirect effect on attitude

Constructs	**Direct effect**	**Indirect effect**	**Total effects**
Perceived Usefulness (PU) →Attitude	0.27*		0.27
Perceived Ease of Use(PEU) →Attitude	0.32*		
PEU→PU→ Attitude		0.20* (0.73×0.27)	0.32
Trialability→ Attitude	0.10*		0.10
Observability→ Attitude	0.52		0.52
*P<0.05			

For the analysis of the structural model each of the construct was represented by a single scale score because the total number of measured variables was too large compared to our sample size to simultaneously estimate both CFA and SEM models. And after analyze results that all of our hypothesized relationships are supported. As shown in Table 20.

Table 20. Test results of the hypotheses

Hypothesize	***t*-value**	***Result***
H_1: Perceived ease of use has positively affected on perceived usefulness.	12.56	Support
H_2: Perceived ease of use has positively affected on users' attitudes toward using blog.	2.19	Support
H_3: Perceived usefulness has positively affected on users' attitudes toward using blog.	5.68	Support
H_4：Trialability has positively affected on user's attitudes toward using blog.	2.25	Support
H_5：Observability has positively affected on user's attitude toward using blog.	8.76	Support

5-3-2 Moderated by Gender

We decide to further explore the moderating effects of these user characteristic variables available. In this section, the full samples are divided into 2 groups according to the subject's gender (male n =269, female n =631), seeing Figure 23 and Figure 24. After setting up the equality constraints of the path estimates across 2 different sample groups, in Table 21, we can observe that such an invariant multi-group specification turns out to misfit to the data (male: CFI=0.92>0.9 NNFI=0.91>0.9, female: CFI=0.96>0.9, NNFI=0.95>0.9), indicating that the claim for the invariance of the overall hypothetical paths across different user gender is not supported.

To further identify those paths that generate variant effects across groups and are thus accounted for the misfit to the data in SEM, we can find that only H_2 and H_4 is the variant path with significant estimate difference. Therefore, the moderating relationship

of the gender on the proposed model paths is evidenced in this study.

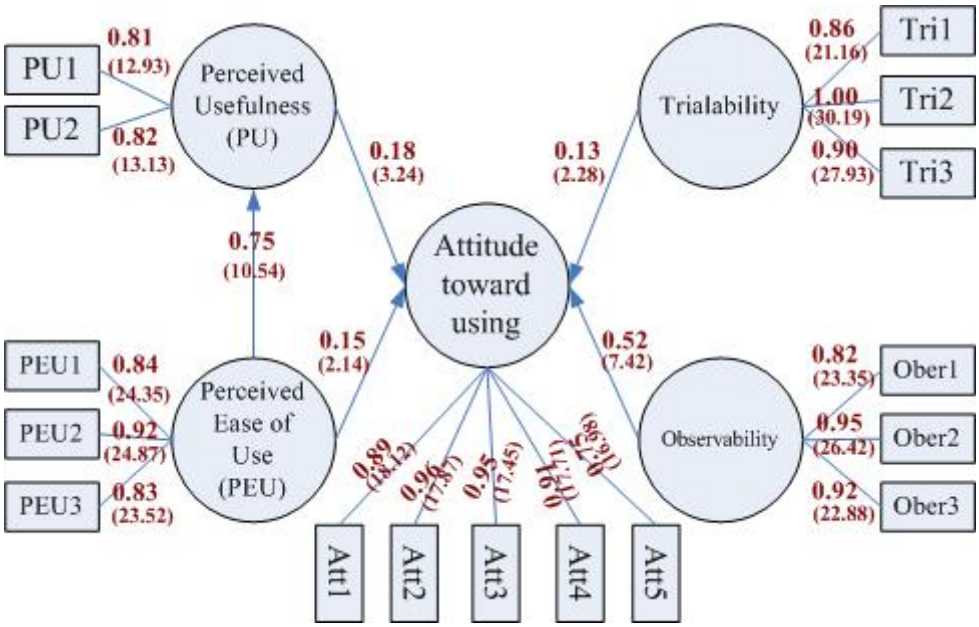

Figure 23. SEM's result of females

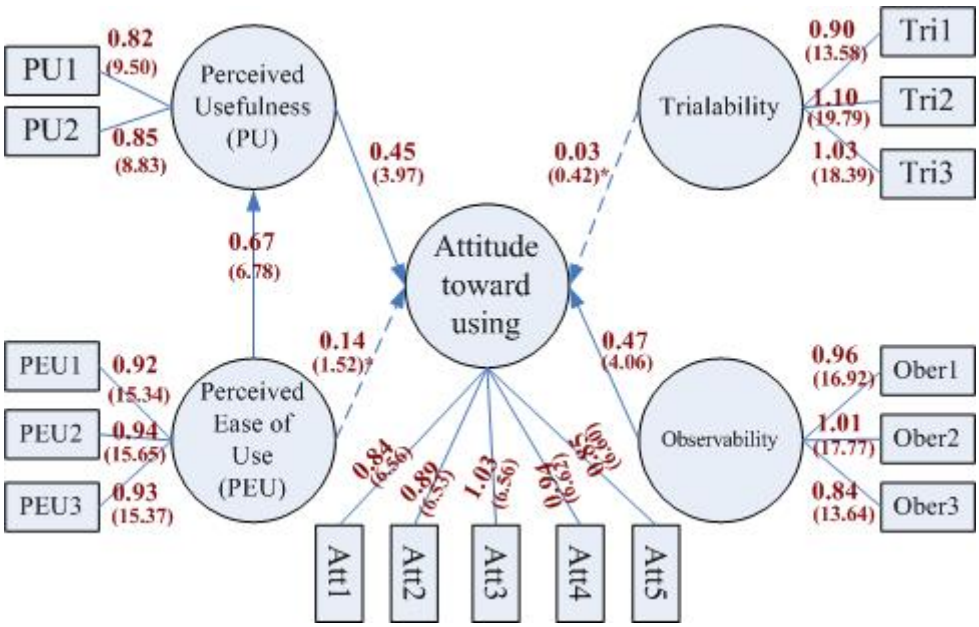

Figure 24. SEM's result of males

* ----------→ not significant

——————→ significant

Table 21. Multi-group SEM to Test Moderating Relationships - Gender

	Female		***Male***	
	***t*-value**	***Result***	***t*-value**	***Result***
H_1:PEU→PU.	10.54	Support	6.78	Support
H_2:PEU→Att	2.14	Support	1.52	Not support
H_3: PU→Att	3.24	Support	3.97	Support
H_4 ：Tri→Att	2.28	Support	0.42	Not support
H_5 ：Obser→Att	7.42	Support	4.06	Support
t-value >1.96				

5-3-3 Moderated by using blog's time

In this section, the full samples are divided into 2 groups according to the using blog's time (Under 30 minutes n = 413, 30 minutes and over n = 487), seeing Figure 25 and Figure 26. After setting up the equality constraints of the path estimates across 2 different sample groups, in Table 22, we can observe that such an invariant multi-group specification turns out to misfit to the data (Under 30 minutes: CFI=0.95>0.9 NNFI=0.94>0.9, 30 minutes up: CFI=0.94>0.9, NNFI=0.92>0.9), indicating that the claim for the invariance of the overall hypothetical paths across different using time is not supported.

To further identify those paths that generate variant effects across groups and are thus accounted for the misfit to the data in SEM, we can find that only ***H_2*** and ***H_4*** is the variant path with significant estimate difference. Therefore, the moderating relationship of the using blog's time on the proposed model paths is evidenced in this study.

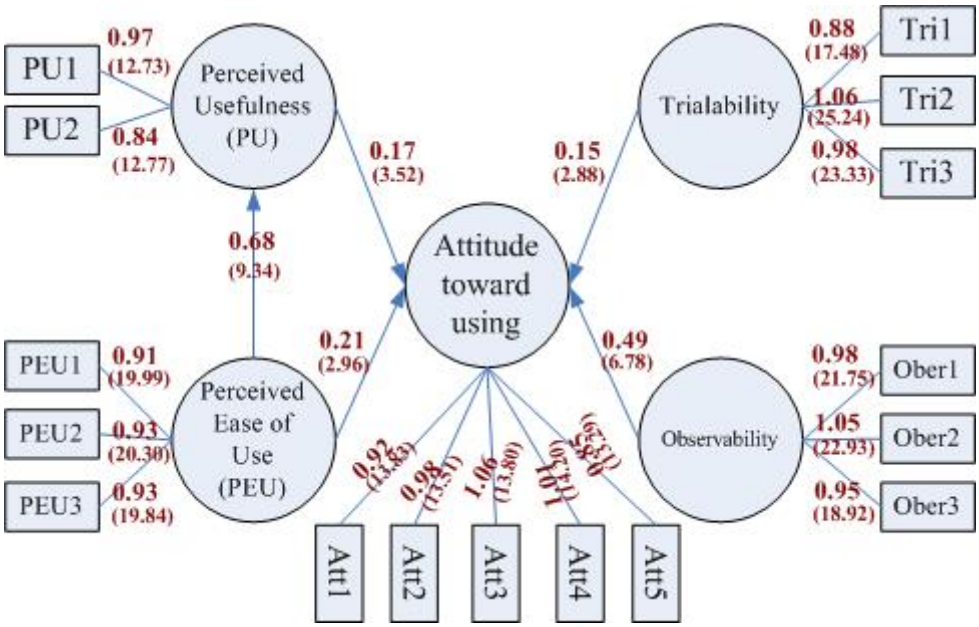

Figure 25. SEM's result of under 30 minutes

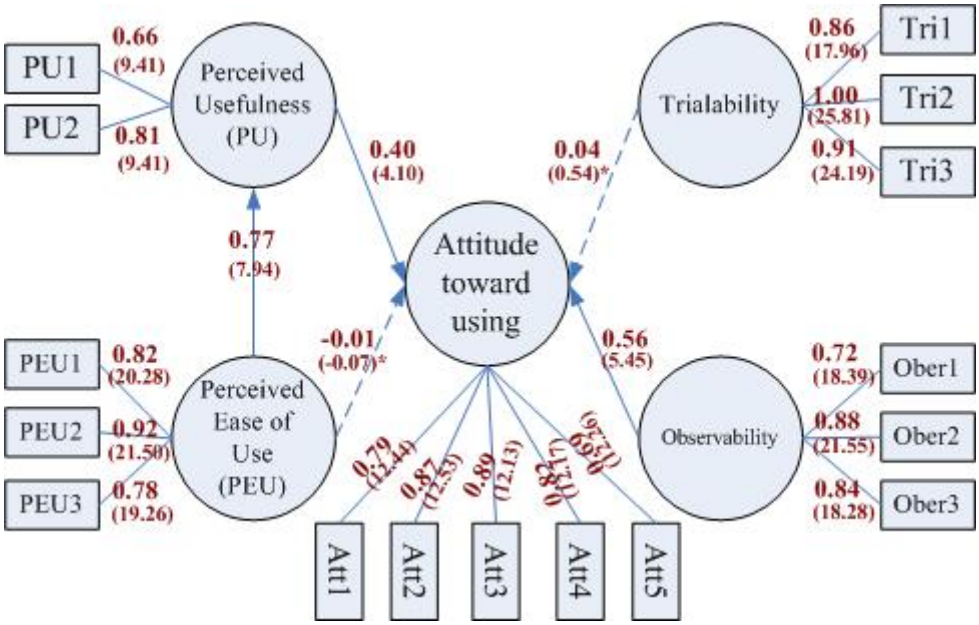

Figure 26. SEM's result of 30 minutes and over

* ----------> not significant

——————> significant

Table 22. Multi-group SEM to Test Moderating Relationships - Time

	Under 30 minutes		***30 minutes and over***	
	***t*-value**	***Result***	***t*-value**	***Result***
H_1:PEU→PU.	9.34	Support	7.94	Support
H_2:PEU→Att	2.96	Support	-0.07	Not support
H_3: PU→Att	3.52	Support	4.10	Support
H_4：Tri→Att	2.88	Support	0.54	Not support
H_5：Obser→Att	6.78	Support	5.45	Support
t-value >1.96				

Chapter 6 Conclusion

6-1 Research Discovery

6-1-1 Demographic analysis

The study concludes that by using blog in analyzing the experience of blog usage and multiple responses, three of these findings are summarized as follow:

1. When the rate of blog usage is high, it expects that receiving mail, finding data, and watching news are what respondents usually do. Wretch is often used (63.3%) than the other blogs and express what most famous of these blogs.
2. 62.6% of the Internet access time lasts over 3 hours, 54.1% in using the blog time lasts over 30 minutes, 77.8% respondents have never written a blog, and 79.3% respondents have their own blogs. From multiple responses in gender classification, when they go Internet access, the top male and female rankings on using blog are 7 and 4 respectively, and all the respondents are in top 5. In conclusion, Wretch has its fame on blogs.
3. In the aspect of article' classification, most of the writer and reader classifications on blogs focus on mood expression, entertainment, and private space groups, and from all the respondents, mood expression group is the most important classification. In conclusion, respondents often express their moods through blogging that can impute the social stress, competition, and economical depression, so they can vent their dissatisfactions or angers this way.

From the datum, we also can found that blogs are most used focus on students (51.3%). It shows that users who are youthful on using blogs in Taiwan.

6-1-2 IPA results

The IPA portion is designed for writers, exploring their significances and performances on blog provided functions.

Importance-Performance analysis on blog functions:

1. “Blog interface is smooth”, “Blog provides multiplicity functions” and “ Upload functions are provided”. These three functions are important and their performances are targeted to writers. These three functions have their advantages on blogs, so we should enhance the existing advantages to maintain the blogs’ quality level.
2. “Web space provided by the Blog enough for normal use” is more important instead of performance. In conclusion, Blog’ space is more important for users, but they are not the performances designated to them. Because the point is that Wretch is performed by 63.3% users, and if users want to increase space on Wretch they have to pay for it. So they can’t upload many videos, photographs etc., and therefore the performance level drops.
3. As for “Blog provides multiple types of interface”, “Blog grammar is widely limited”, ” To subscribe RSS”, and ” Teaching is clearing”, these four functions are not important and its performance only matters for writers. In conclusion, the four functions are not necessarily entailed without any usage; however they have to re-plan and increase writers’ performance and its importance felt by writers.

IPA’s groups: Gender, Time and Top 2 blogs:

1. ***Gender:*** “Blog providing multiple types of interfaces” has different receptions between genders. Male views this with less importance and high performance; and

female instead, views with high importance and less performance. The result has a significant difference, so we have to improve the functions to increase the perceptions of both male and female as far as both the importance and performance are concerned. Thus, as for “Blog provides multiplicity functions”, ” Web space provided by the Blog enough for normal usage”, ” Blog grammar is widely limited”, ” Teaching is clearing”, and ” Upload functions are provided”, these five functions falls on the same quadrant for either gender, but the results from the five functional importance and performance criteria experience significant differences. In conclusion, we have improved and suggested further enhancements for these functions.

2. ***Time:*** The time that uses blogs every day can be grouped into two categories： “Under 30 minutes” and “30 minutes and over”. “Blog provides multiplicity functions” and “Teaching is clearing” are on the different quadrants, but just the importance for “Blog provides multiplicity functions” has a significant difference in these groups. On the other hand, even though “Teaching is clearing” has different level of importance and performance respectively, but it hasn’t the significant difference in these groups. “Blog provides multiplicity functions” has high importance and performance on these groups, but it has to be improved further so as to increase its importance.
3. ***Top 2 blogs:*** About Wretch and Yahoo’s groups, “Blog provides multiplicity functions”, “To subscribe RSS” and ” Teaching is clearing”, these three functions are on the different quadrants, but the levels of importance on “Blog provides multiplicity functions”, and ” To subscribe RSS” respectively have significant differences respectively, so we have to increase their levels of importance. The importance and performance for “Blog interface is smooth”, “Blog provides multiplicity type of interface”, “Web space provided by the Blog enough for normal use”, and “Upload functions are provided” and “Blog grammar is widely limited” have significant differences on the group level, so we have to strengthen

their levels of importance and performance for these functions.

IPA's groups: Gender, Time and Top 2 blogs' importance and performance top 3:

1. ***Gender:*** Males and females' importance rank: (1). Blog interface is smooth, (2). Upload functions are provided, (3). Web space provided by the Blog enough for normal use and performance rank: (1). Upload functions are provided, (2). Blog interface is smooth (3). Blog provides multiplicity functions. In conclusion, gender has same liking on these functions.
2. ***Time:*** "Under 30 minutes" importance rank: (1). Blog interface is smooth, (2). Upload functions are provided, (3). Web space provided by the Blog enough for normal use, and performance rank: (1). Upload functions are provided, (2). Blog interface is smooth (3). Blog provides multiplicity functions;

   "30 minutes and over" importance rank: (1). Blog interface is smooth, (2)."Web space provided by the Blog enough for normal use" and Upload functions are provided, (3). Blog provides multiplicity functions, and performance rank: (1). Upload functions are provided, (2). Blog provides multiplicity functions (3). Blog interface is smooth. In conclusion, the top 3 are different in sequence, but they also express have same liking on the three same functions.
3. ***Top 2 blogs:*** Wretch and Yahoo's importance rank: (1). Blog interface is smooth, (2). Upload functions are provided, (3). Web space provided by the Blog enough for normal use, Wretch's performance rank: (1). Upload functions are provided, (2). Blog provides multiplicity functions, (3). Blog interface is smooth, and Yahoo's performance rank: (1). Blog interface is smooth, (2). Upload functions are provided, (3). Blog provides multiplicity functions. In conclusion, performance's top 3 are different in sequence, but they also express have same liking on the three same functions.

Each blog's importance and performance:

1. High importance and performance

Importance: For MSN, PChome, Xuite, Yahoo, Wretch, PIXNET, Roodo, and Sina, they have high averages at the importance levels of "Blog interface is smooth", Google and other platforms have high averages for two functions of "Blog provides multiplicity type of interface", and "Web space provided by the Blog enough for normal use". In conclusion, we have to strengthen these three functional levels of importance.

Performance: "Blog interface is smooth" (PChome, Xuite, Yahoo, and Roodo) has exhibited many blogs' performances, and then followed by "To subscribe RSS" (Google, PIXNET, and Sina), and " Upload functions are provided" (MSN, Wretch, and Other) in ranking; and followed by "Web space provided by the Blog enough for normal use" (Roodo and Sina), and lastly, "Blog provides multiplicity functions" (Roodo), " Blog grammar is widely limited" (Roodo), and " Teaching is clearing" (Sina). In conclusion, these are the seven functions exhibited high performances on each blog, so we should keep up their levels of performance.

2. Low importance and performance

Importance: MSN, PChome, Xuite, Yahoo, Wretch, PIXNET, Sina and other platforms have low averages in the levels of importance at "To subscribe RSS" importance, and Roodo has low average for "Blog grammar is widely limited ". In conclusion, these two functions have to be re-planned so as to increase their levels of importance;

Performance: "Blog grammar is widely limited" (MSN, Yahoo, Wretch, PIXNET, and Sina) exhibited many blog performances but is less in average, and then followed by "Blog provides multiplicity type of interface" (Google, PChome, Roodo, and Sina), and again followed by "Blog interface is smooth" (PIXNET and Sina), " Teaching is clearing" (Xuite and

PIXNET), and ” Upload functions are provided” (PIXNET and Sina), and trailed by “Blog provides multiplicity functions” (Sina), and ” To subscribe RSS”(Other platforms). In conclusion, the seven functions have to be improved and their performance levels must be increased.

Levels of importance for blog’s future functions:

1. One of “To share resources between blogs. (ex: to share between Wretch and Yahoo’s resources)” is more important for writers regarding blog’s future functions. In conclusion, share resources of messages, functions, and photograph etc. between blogs are important for writers.
2. On gender, males and females all are considering that one of “To share resources between blogs. (ex: to share between Wretch and Yahoo’s resources)” is more important in blog’s future function. In conclusion, the function has a significant difference, so the importance is different based on gender.
3. On the time parameter, these two groups are all considering that one of “To share resources between blogs. (ex: to share between Wretch and Yahoo’s resources)” is more important from the perspective of blog’s future function, and “Blog provides web cam that can increase writers and readers’ interaction” has a signification difference. In conclusion, the two groups have different levels of importance on “Blog provides web cam that can increase writers and readers’ interaction”..

6-1-3 Concept analysis

According to the analysis, PEU would induce a positive attitude toward using blogs, and PEU has direct effects on attitude that PU has indirect effects on attitude toward blog usages by effects from two direct products. The finding is the same between researches conducted by Raaij et al. (2008), and Y. -C. Huang (2006) etc. Another finding, the observability has a greater effect on attitude than other variables. In

conclusion, there is a great effect existed between users by observing blogs and then choosing whether to use or not.

This section will discuss the effects for PU, PEU, Observability, and Trialability on attitude toward using the blog. The discussion is summarized as follow:

1. *Perceived ease of use has positive affect on perceived usefulness.*

   It means the process of using blogs that they feel with ease of operation and help them with more efficacies quickly. In conclusion, when blogs are more useful that their attitudes tend to be positive on using them and increase the usage rate.

2. *Perceived ease of use has positive affects on users' attitudes toward using blog.*

   It means that in the process of using blogs they can feel the ease in operating and this would help them in achieving the purposes quickly. In conclusion, the process for using blog should be more flexible and understandable when users are using them. For users, their attitudes tend to be positive on using blogs and increase the rate for trialability for new technologies.

3. *Perceived usefulness has positive affects on users' attitudes toward using blog.*

   It means when using blogs, the process can provide assistances on their daily living styles and job performances, and that would be warmly accepted by users. In conclusion, when the number of users would increase when blog response time to serve these users can be increased also, as well as the times of usage

4. *Trialability has positive affects on user's attitudes toward using blog.*

   It means when it is given with tryouts on blogs and it can then provide with entertainment and experiencing the multiplicity functions and interfaces as well as the convenience in the process. In conclusion, these advantages tend to let users have positive attitudes on using blogs and increase the rate of usage.

5. *Observability has positive affects on user's attitude toward using blog.*

   It means when users observe blogs with the feeling that they can communicate with many messages through blogging. In conclusion, when they know the

advantages through the process and understand the online culture which would be receptive, then they would use them. And uses' attitudes tend to be positive on using blogs and increase the rate of usage.

SEM's groups of gender and time:

From datum, females are all supportive, and all feel positive in attitude. Males have not been all supportive on PEU and in regards to ability for tryout, thus, males attitudes are not positively affected. In conclusion, gender exhibited different results but the models are appropriate; on the time parameter, the "Under 30 minutes" exhibited supportive from either gender, and all have positive affects in attitude. For "30 minutes and over", it has not received supports on PEU, and trailability has received no positive effect in attitude. In conclusion, the time parameter has different results but the models are appropriate.

6-2 Research Suggestion

For academia:

Technology Acceptance Model (TAM):

This study is to explore whether PU or PEU affects attitude, but not include external variables, behavioral intention and actual system usage. Further study can evaluate whether to add the whole TAM concept and IDT's five characteristics to further explore the users' attitude.

Innovation Diffusion Theory (IDT):

As for the five characteristics brought up by Rogers, we could not find any relationship existed between compatibility and blogs. Further study may be conducted to explore the concerns of compatibility and the relationship on digital publishing.

For Internet service providers:

1. Blogs can generate in-depth effects for users. In recent years, referencing request on blogs is on the rise. During this period, online culture also has pushed envelop for interpersonal interaction. We should confront and address these problems proactively, and hope that with service improvements and technological innovations, the user's incessant asking the service providers to achieve the high levels of importance and performance for each function implemented; this should not be surprising after all.
2. Blogs can provide users with some help, and allow them grow confidences on blogs. We suggest service providers adopt strategies like：For first-time blog users, they can be treated with certain innovations which would make users feel they would be interested. And with gradual addition with ease of usage, and their perceived usefulness would increase as well. Sometimes, they even can have activities on blogs to increase blog usages, interactions with other users, which would eventually lead the users closer to the heartbeat of the market.

Respondents are most focus on "south". Because the samples' distributions are disproportionate, the analysis result could be affected.

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Appendix (1)--Questionnaire

親愛的先生／小姐您好：

首先非常感謝您抽空填寫這份問卷。這是一份學術用的問卷，主要是探討使用者使用 BLOG 的態度。本問卷的所有資料僅供學術使用，全程採匿名的方式進行，絕對不會有對外公開的情況發生，敬請安心作答。

敬祝

順心 如意

南華大學出版與文化事業管理研究所

指導教授 黃昱凱 博士

研究生 何盈慧 謹啟

本問卷分成三個部分：第一部分為【BLOG 的使用經驗】、第二部分為【影響 BLOG 使用態度的測量】、第三部分為【基本資料】，請填答者依序勾選在適當的空格內，謝謝您的配合。

第一部份：BLOG 的使用經驗

說明：

1. 此部分的題目是為了瞭解您使用 BLOG 的相關經驗，希望填答者可以依符合自己的情況進行填寫。
2. 第三題、第七題和第九題為複選題，其餘都是單選題，請填答者務必每題都填，依照實際情況勾選在□內〈例：☑〉。

1. 請問您的上網經驗：

□一年以下 □一至二年 □三至四年 □五至六年 □七年以上。

2. 請問您每天上網的時間：

□30 分鐘以下 □30 至 60 分鐘□1 至 2 小時□3 至 4 小時□4 小時以上。

3. 請問您上網的時間通常在做什麼事〈複〉？

□看新聞 □收發 mail □交友 □聊天□玩遊戲 □繳費 □逛 BBS □購物

□找資料□下載東西 □使用 BLOG □線上收聽廣播或音樂 □其他。

4. 請問您有屬於自己的 BLOG 嗎？

□ 有 □沒有。

5. 請問您閱讀或寫作 BLOG 的時間？

□30 分鐘以下 □30 至 60 分鐘 □1 至 2 小時□3 至 4 小時□4 小時以上。

6. 請問您最常閱讀或寫作的 BLOG 平台是：

□Google □MSN 網路平台 □PChome □Xuite 日誌 □Yahoo □無名小站

□痞客邦 □番薯藤樂多日誌 □新浪部落 □其他。

7. 請問您經常閱讀或寫作的 BLOG 平台是〈複〉:

□Google □MSN 網路平台 □PChome □Xuite 日誌 □Yahoo □無名小站

□痞客邦 □番薯藤樂多日誌 □新浪部落 □其他。

8. 請問您最常從事寫作或閱讀的文章分類為：

□休閒娛樂□財務金融□家庭生活□美食介紹□醫療保健□生活情報

□數位生活□運動體育□藝文創作□公共議題□電玩動漫□美學設計

□教育學術□圖像創作□寵物當家□影視音樂□心情隨筆□科技通訊

□攝影天地□旅遊園地□職場甘苦□時尚流行□校園生活□私人空間。

9. 請問您經常寫作或閱讀的文章分類為〈複〉:

□休閒娛樂□財務金融□家庭生活□美食介紹□醫療保健□生活情報

□數位生活□運動體育□藝文創作□公共議題□電玩動漫□美學設計

□教育學術□圖像創作□寵物當家□影視音樂□心情隨筆□科技通訊

□攝影天地□旅遊園地□職場甘苦□時尚流行□校園生活□私人空間。

10. 請問您在 BLOG 上常扮演的角色：

□作者〈也有閱讀經驗〉 □閱讀者〈偶爾寫作〉 □純粹閱讀者。

11. 以下「重要度和滿意度」的表格請由「作者(也有閱讀經驗)和閱讀者〈偶爾寫作〉」作答，並依據您最常使用的 BLOG 平台，選出您認為最滿意和最重要的特性，並勾選適當選項。

重要度						滿意度				
1.非常重要	2.重要	3.普通	4.不重要	5.很不重要		1.非常滿意	2.滿意	3.普通	4.不滿意	5.很不滿意

☐	☐	☐	☐	☐	1. 操作介面平穩，不會常有當機的情況出現。	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	2. BLOG 提供多樣化的功能設定，讓我可以藉由這些功能更生動的表達自己的想法。	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	3. BLOG 提供的面板選擇多樣化。	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	4. BLOG 有足夠的網頁空間可以讓我創作不受侷限。	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	5. 在 BLOG 的使用上沒有語法的限制。	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	6. BLOG 提供 RSS 訂閱功能，可以讓我輕鬆訂閱想要閱讀的文章。	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	7. BLOG 的使用教學可以清楚明白。	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	8. BLOG 提供上傳精靈，可以輕鬆上傳我想要分享的圖片或影音。	☐	☐	☐	☐	☐
【未來】BLOG 的創新設計，請圈選您期望這項功能其他的重要度。										
☐	☐	☐	☐	☐	9. BLOG 可以提供自己專屬的線上即時通訊功能。					
☐	☐	☐	☐	☐	10. BLOG 可以開發視訊，直接讓作者和閱讀者可以面對面互動。					
☐	☐	☐	☐	☐	11. 可以在 BLOG 上從事手繪日記的功能，閱讀者也可藉由手繪功能留言給作者。					
☐	☐	☐	☐	☐	12. 提供相簿整本下載功能。					
☐	☐	☐	☐	☐	13. BLOG 間可以彼此分享資源。〈像是無名和 Yahoo 的資源共享〉					
☐	☐	☐	☐	☐	14. BLOG 提供合作廠商購物系統，經由自己 BLOG 連結賣出的商品，也可以從中賺取利潤。					

第二部份：影響 BLOG 使用態度的測量：

題號	**知覺有用性：** 意指使用者在使用 BLOG 時，認為 BLOG 可以使您生活得到幫助，像是工作上的助益或是交友的開闊。就您的認知，使用 BLOG 對生活是否有幫助，請勾選您認為最適當的選項。	非常同意	同意	有點同意	普通	有點不同意	不同意	非常不同意
1	BLOG 可以提供有效的訊息，以利我增廣見聞。							

2	使用 BLOG 對我的工作是有用的。							
3	使用 BLOG 讓我在與朋友溝通及訊息交流過程中，想法與感受更容易被瞭解。							
4	整體來說,BLOG 對我在網路溝通的使用上是有利的。							

題號	**知覺易用性：** 意指使用者使用 BLOG 時，認為它是很好操作的。而 BLOG 的操作難易度，是否會影響使用者的使用態度，請勾選您認為最適當的選項。	非常同意	同意	有點同意	普通	有點不同意	不同意	非常不同意
1	學習操作 BLOG 對我來說是容易的。							
2	BLOG 具備的功能簡單，連結列轉換清楚。							
3	使用 BLOG 的過程中，每個程序與介面操作對我來說是容易瞭解的。							
4	整體來說，我相信 BLOG 是容易使用的。							

題號	**相容性：** 意指使用者在使用 BLOG 時，可以在 BLOG 上同時放置圖文和影音分享,沒有受到平台限制只能放置單一物件。BLOG 的多媒體功能是否會促使您想要使用或閱覽，請勾選您認為最適當的選項。	非常同意	同意	有點同意	普通	有點不同意	不同意	非常不同意
1	我在使用 BLOG 時，有圖文和影音的功能可讓我更有視覺享受。							
2	我認為沒有圖文或影音的功能會讓 BLOG 略顯失色。							
3	操作 BLOG 如果有語法的限制，會讓我有受到阻礙的感覺，閱讀起來也會絕得少了趣味。							
4	整體而言，使用 BLOG 時，在版面有圖文和影音							

	的放置會讓寫的人和看的人更覺得有意思。							

題號	**可試用性：** 意指看到親朋好友使用 BLOG，並親自下去操作而瞭解到 BLOG 的優缺點。試用 BLOG 的相關功能可讓我加快瞭解它的性質，請勾選您認為最適當的選項。	非常同意	同意	有點同意	普通	有點不同意	不同意	非常不同意
1	我可以先加入免費會員測試它的相關功能。							
2	BLOG 提供足夠的使用空間可以讓我試用它的各種功能。							
3	我在使用 BLOG 的過程中，發現它的功能是多樣化的。							
4	整體而言，我發現在使用的過程，BLOG 提供了多元、方便的功能。							

題號	**可觀察性：** 意指 BLOG 所提供的新功能和 web2.0 的介面，是可以被看見的。在使用 BLOG 時，我希望可以觀察到的條件，請勾選您認為最適當的選項。	非常同意	同意	有點同意	普通	有點不同意	不同意	非常不同意
1	我可以和其他人談論起 BLOG 的功能。							
2	在我瀏覽的網路世界中，BLOG 是常見到的。							
3	我可以從不同的 BLOG 看到不同的功能所呈現的不同樣式，以利找到我所想要寫作或閱讀的文章。							
4	我可以從不同的 BLOG 得知哪些 BLOG 比較多人使用。							
5	整體來說，我希望可以藉由觀察找到我所想要寫作或閱讀的 BLOG。							

題號	**使用態度：** 意指使用者使用 BLOG，在使用的過程中，對 BLOG 產生正向或負向的反應。在使用 BLOG 時，我願意採納它的因素，請勾選您認為最適當的選項。	非常同意	同意	有點同意	普通	有點不同意	不同意	非常不同意
1	我對使用 BLOG 的各種功能和提供的服務感到興趣。							
2	我喜歡使用 BLOG 平台做為我休閒娛樂或提升工作績效的媒介。							
3	相較於書面閱讀和寫作，我對使用 BLOG 從事網路寫作和閱讀感到興趣。							
4	使用 BLOG 的次數會影響我再次使用的意願。							
5	整體而言，我對使用 BLOG 的評價是正面的。							

第三部份：基本資料

此部分的作答，請填答者務必每題都填，依照實際情況勾選在□內〈例：☑〉。

1. 請問您的性別是：

□男性 □女性。

2. 請問您的年齡是：

□20 歲以下 □21-25 歲□26-30 歲□31-35 歲 □36-40 歲□40-45 歲

□46 歲以上。

3. 請問您的教育程度：

□高中／職以下 □高中／職 □大學／專科□研究所以上。

4. 請問您的職業：

□農林漁牧礦業 □製造業 □服務業 □自由業 □學生 □教育單位□公務人員

□資訊電子業 □軍人 □家管 □其他。

5. 請問您的婚姻狀況：

□單身 □已婚〈無小孩〉□已婚〈有小孩〉。

6. 請問您的月收入：

□20,000 元以下 □20,001-30,000 元□30,001-40,000 元 □40,001-50,000 元□50,001 元以上。

7. 請問您的居住地：

□北部地區□中部地區 □南部地區 □東部地區 □離島地區□其他。

本問卷到此結束，非常感謝您百忙抽空進行填答，也務必請您再次檢查是否有遺漏尚未填答的地方。您的填答將使本研究得以進行順利，也在此感謝您的協助！順心 愉快。

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