

## THE MEASUREMENT OF SATISFACTION OF GUESTHOUSE SUPERVISOR ON ELECTRONIC COMMERCE WEBSITES

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### Abstract

*The purpose of this article is to measure the importance, satisfaction, benefit and intention of website functions for guesthouse supervisors. Instead of investigating the consumers' satisfaction on some specific website, this article investigates the guesthouse supervisors' satisfaction on the functions of e-shop and industry website offered by application service provider. Importance-performance analysis was adopted to analyze the relationship between importance and satisfaction, and regression analysis was used to examine the relationship between these variables. 89 valid questionnaires from registered guesthouses are collected in I-Lan and Hwa-Lian counties in East Taiwan.*

*The results showed that there are opportunities to improve all functions of industry website offered by ASP. However, resources could be shifted from some website functions to another in order to improve satisfaction. The intentions to purchase new capabilities could raise by means of raising benefits instead of raising satisfaction.*

**Keywords:** electronic commerce, guesthouse, satisfaction, IPA.

### 1. Introduction

A New Economy Age is created by network with the vigorous development of communication technology and the popularisation of the internet. Electronic Commerce (EC) is one of bi-directional communications and new marketing channel. The commodities, service, and advertisements are provided in the internet.

From May 2005 to January 2006, the number of registered guesthouses in Taiwan grows from 963 to 1,237. Hwa-Lien and I-Lan counties, which locate in east of Taiwan, have the second and third most amount guesthouses in Taiwan. The number of registered guesthouses in Hwa-Lien and I-Lan increase rapidly from 218 to 279 and 158 to 201 in the same period, respectively [1].

The market share of tour industry in Taiwan internet retail market was 68% in 2004 [2]. It indicates the electronic business is more and more important for the guesthouses. Since it is not easy for consumers to find an individual guesthouse's website in the virtual networks, Application Service Providers (ASP) construct the industry websites which comprise different guesthouses' websites (e-shops). The guesthouse industry website provides consumers an access to many guesthouse websites at a portal and thus an easier way to find a favourite guesthouse. The industry website can be regarded as a platform where the consumers assemble in the internet.

The electronic businesses of the guesthouses in I-Lan and Hwa-Lien are well developed. There were 11 and 12 guesthouse industry websites and 142 and 203 e-shops in I-Lan and Hwa-Lien, respectively, in March, 2005 [3].

Figure 1 shows that the industry website comprises many e-shops, which are owned by each guesthouse. Guesthouse supervisors pay ASP to use the software and internet services, and obtain the marketing services from the industry website. Both guesthouse supervisors and ASP manage their own website via back-office. Customers can review the information and order a room either via prosceniums of industry website or via e-shops.

A lot of literatures investigated the consumers' satisfaction on a specific website. These kinds of researches are concerned with Business to Consumer (B2C). However, this article focuses on the guesthouse supervisors' satisfaction on the functions of e-shop and industry website offered by ASP. This study is concerned with Business to Business (B2B).

An ASP is a business that provides computer-based services to customers over a network. The most limited sense of this business is that of providing access to a particular application program using a standard protocol [4]. Understanding the perception of guesthouse supervisor is advantageous for ASP to make strategies or improve performance.

This article attempts to measure the importance, satisfaction, benefit and intention of e-shop and industry website functions. This research is expected to propose some strategies for ASP.

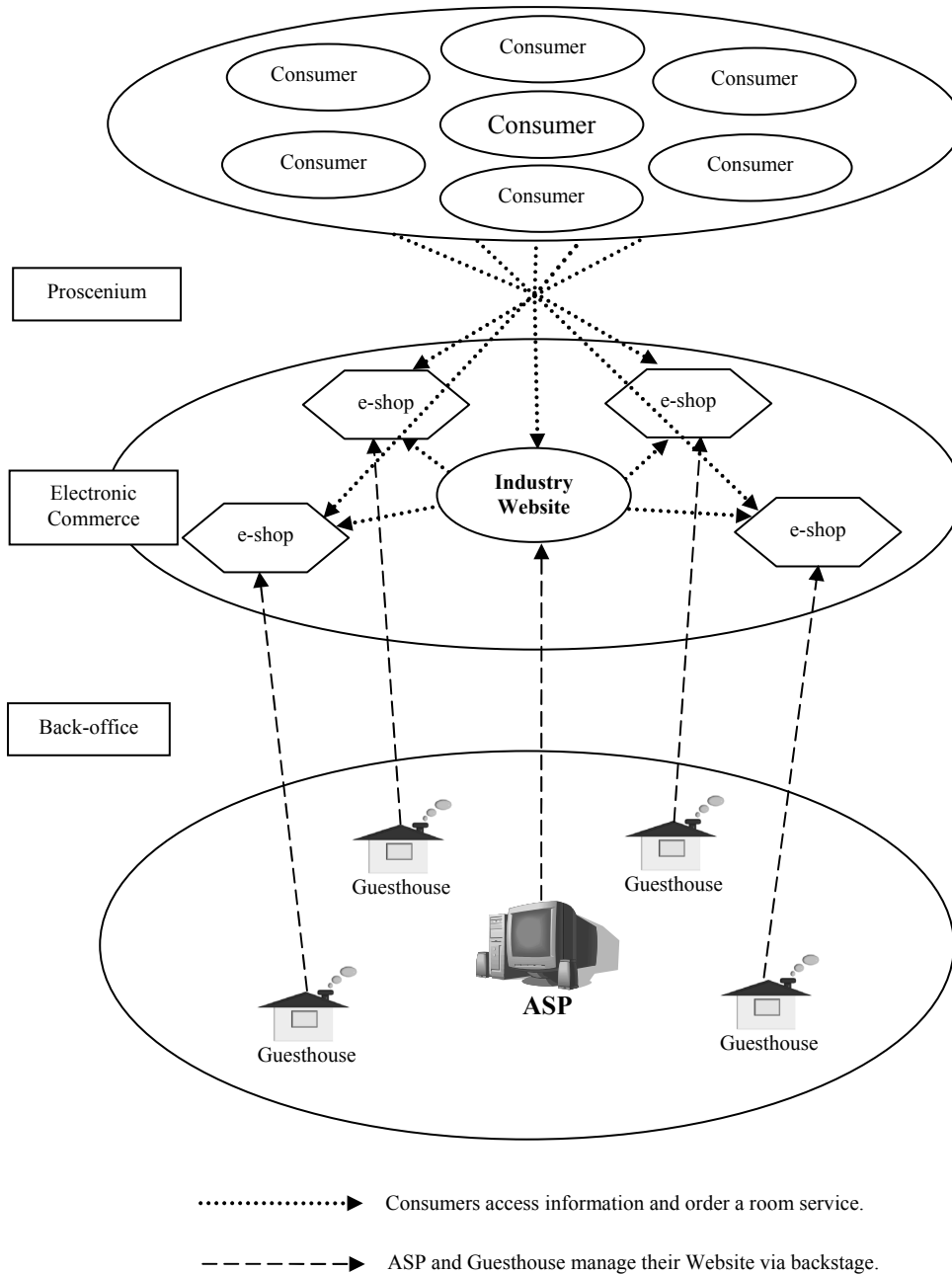


Figure 1. Relationship between ASP, industry website, e-shop and consumer

## 2. Literature Review and Analytical Framework

The first part of this section is the reviews on importance-performance analysis (IPA) and satisfaction. In the second part the analytical framework, hypotheses and methodology of this study will be introduced.

### Importance-Performance Analysis (IPA)

Martilla and James [5] developed IPA as a framework for understanding the relationship between the customer judgments on the satisfaction and on the importance of goods or services. IPA offers simple, yet useful method for simultaneously considering both the importance and performance dimensions when evaluating or defining strategy [6]. The importance-performance map involves the mean ratings for importance and performance on four-quadrant matrix [5, 7, 8, 9]. Figure 2 presents the framework of IPA. The attributes which are rich in importance and lack in satisfaction belong in the quadrant A (Concentrate Here). Therefore, to gain maximum benefit from expenditure of resources, the attributes in this quadrant should be given top priority in any intervention or action [7]. The attributes with high importance and satisfaction belong to quadrant B (Keep Up the Good Work). The performance of these attributes should be maintained. The attributes with good performance but low importance belong in the “Possible Overkill” quadrant. Resources would be diverted to other attributes [6]. The attributes with low i importance and low satisfaction belong in quadrant D (Low Priority). Managers could discontinue the expenditure of additional resources on these attributes [7].

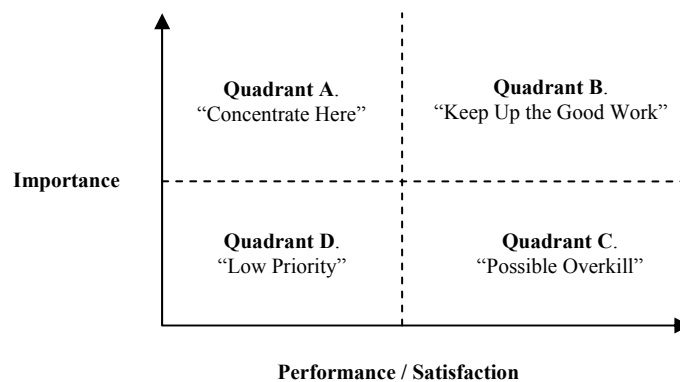


Figure 2. Framework of IPA

### Satisfaction

The satisfaction is always used to measure the customer cognition of the product, service, job, environment, and so on. Cardozo [10] is the earlier scholar who investigated customer satisfaction and suggested that satisfaction can increase the repurchase intentions. Hirschman [11] identified that the dissatisfied customers will complain or switch.

Oliver [12] described that the process of satisfaction judgements are reached in the expectancy-disconfirmation framework. Firstly, buyers have expectations of a specific product or service prior to purchase. Secondly, consumption reveals a perceived quality level which is influenced by expectations. Third, perceived quality may either confirm or disconfirm the expectations prior to purchase. Fourthly, expectations and the perceived level of disconfirmation positively affect satisfaction. Reichheld and Sasser [13] premised that improved service quality leads to higher customer satisfaction, which brings customer intention/loyalty, which raises enterprise profits.

Mittal et al. [14] found an asymmetric relationship, in which negative attribute-level performance has a larger impact on satisfaction than a similar magnitude of positive attribute-level performance, and these relationships are found to be non-linear. Streukens and Ruyter [15] investigated the reasons of asymmetric effects. These evidences show that negative information (1) is more perceptually salient than positively information, (2) is given more weight than positive information, and (3) elicits a stronger psychological response than positive information.

Recent years, the EC has vigorous developed. In 2005 there were approximately 59.8 billion NT dollars for which goods/services was purchased by EC, and travelling commodities occupies above six tenths in Taiwan. The EC scale could reach to 89.3 and 131 billion NT dollars respectively in 2006 and 2007 based on the estimated by Market Intelligence Center (MIC). The CAGR (Compound Annual Growth Rate) is 48% during the period of 2005 to 2007 [16]. Cheung and Lee [17] defined the web-satisfaction as "the overall affective evaluation a user has regarded his or her experience related with the Website". A lot of literatures applied the information quality (IQ) and system quality (SQ) to measure the web-satisfaction [18- 22].

High IQ has been found to be related with system use and user satisfaction [19]. DeLone and McLean [18] pointed out that accuracy, relevance, understanding ability, completeness, currency, dynamism, personalization and variety are the factors used to measure IQ. Szymanski and Hise [20] and Janda et al [21] mentioned that IQ is an essential determinant of consumer satisfaction with internet shopping. McKinney et al. [22] measured the IQ by relevance, timeliness, reliability, scope and perceived usefulness. Negash et al. [23] measured IQ by informativeness and entertainment dimensions. Informativeness involves information accuracy, relevance, timeless, convenience and completeness. Entertainment involves whether the interface is entertaining, enjoyable, pleasing, fun and exciting.

SQ is focused on the outcome of the interaction between the user and the system. DeLone and McLean [18] premised that SQ is a main attribute associated with user satisfaction in the EC. They used usability, availability, reliability, adaptability and response time to measure the SQ. McKinney et al. [22] determined four dimensions of SQ to measure the satisfaction, i.e. access, usability, navigation and interactivity. Zeithaml et al. [24] adopted the perceived convenience and perceived control to measurement web-satisfaction.

### Analytical framework

Based on the theories and related literatures mentioned above, this study firstly applied the factor analysis to reducing 16 variables into the attributes of IQ and SQ to measure the importance and satisfaction. The relationship between importance and satisfaction is discussed in the importance-performance analysis (IPA). Then, the regression analysis is used to capture the relationship of importance, satisfaction, benefit and intention of guesthouse supervisor dealing with his own e-shop or the industry website offered by ASP.

The analytical framework of this paper is shown in Figure 3. It is hypothesized that the importance and website benefit positively related with the satisfaction. Satisfaction and website benefit are positively related with the intention. This paper doesn't suggest the asymmetric effects because Streukens and Ruyter [15] concluded that satisfaction did not reveal asymmetric effects and symmetric linear models are possessing superior fitted compared with asymmetric non-linear function.

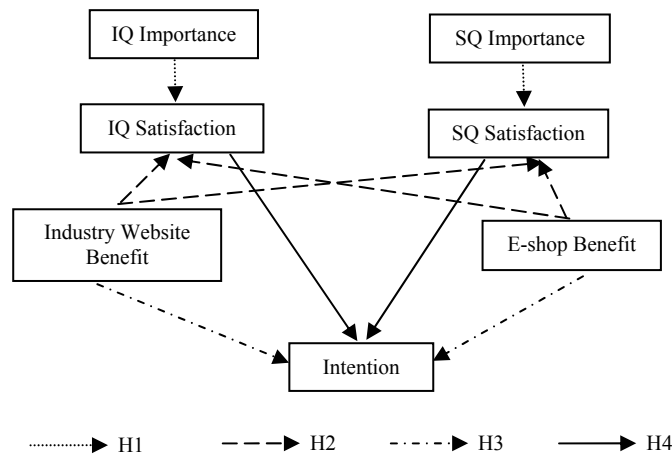


Figure 3. The research model

**Hypotheses and methodology**

Based on the Analytical Framework, hypothesis H1 to H4 and equations (1-1) to (4) presented in Table 1 are constructed. Equations (1-1) and (1-2) describe the effects of importances on satisfaction, dealing with website IQ and SQ. The coefficient of  $\beta_{11,i}$  and  $\beta_{12,j}$  are expected to be positive. Equations (2-1) to (2-4) are used to test the hypothesis H2 about the effects of websites benefit on satisfaction. The coefficient of  $\beta_{21,i,k}$ ,  $\beta_{22,j,k}$ ,  $\beta_{23,i,m}$ ,  $\beta_{24,j,m}$  are expected to be positive. Equation (3-1) and (3-2) are used to test hypothesis H3 about the effects of websites benefit on intention. The coefficient of  $\beta_{31,n,k}$  and  $\beta_{32,n,m}$  are expected to be positive. Equation (4) captures the effects of IQ and SQ satisfaction on intention and is used to test hypothesis H4.  $\beta_{4,n,i}$  and  $\beta_{4,n,j}$  are expected to be positive.

Hypotheses	Empirical Models	Equation No.
H1: Satisfaction is an increasing function of importance.	$SAT_{IQ,i} = \alpha_{11,i} + \beta_{11,i}IMP_{IQ,i} + \epsilon_{11,i}$	(1-1)
	$SAT_{SQ,j} = \alpha_{12,j} + \beta_{12,j}IMP_{SQ,j} + \epsilon_{12,j}$	(1-2)
H2: Satisfaction is an increasing function of benefit of e-shop and industry Website.	$SAT_{IQ,i} = \alpha_{21,i} + \sum_k \beta_{21,i,k}BEN_k + \epsilon_{21,i}$	(2-1)
	$SAT_{SQ,j} = \alpha_{22,j} + \sum_k \beta_{22,j,k}BEN_k + \epsilon_{22,j}$	(2-2)
	$SAT_{IQ,i} = \alpha_{23,i} + \sum_m \beta_{23,i,m}BEN_m + \epsilon_{23,i}$	(2-3)
	$SAT_{SQ,j} = \alpha_{24,j} + \sum_m \beta_{24,j,m}BEN_m + \epsilon_{24,j}$	(2-4)
H3: Intention is an increasing function of benefit of e-shop and industry Website.	$INT_n = \alpha_{31,n} + \sum_k \beta_{31,n,k}BEN_k + \epsilon_{31,n}$	(3-1)
	$INT_n = \alpha_{32,n} + \sum_m \beta_{32,n,m}BEN_m + \epsilon_{32,n}$	(3-2)
H4: Intention is an increasing function of satisfaction.	$INT_n = \alpha_{4,n} + \sum_i \beta_{4,n,i}SAT_{IQ,i} + \sum_j \beta_{4,n,j}SAT_{SQ,j} + \epsilon_{4,n}$	(4)

i = Description, Map, Promotion  
j = Navigation, Interactivity  
k = Each e-shop benefit items  
m = Each industry website benefit items  
n = Each intention items  
 $\epsilon$  = Error term

IMP: Importance  
SAT: Satisfaction  
IQ: Information quality  
SQ: System quality  
BEN: Benefit  
INT : Intention

Table 1. Model specification

**3. Data, Statistics and Variables**

**Data collection**

376 questionnaires were mailed to all registered guesthouses in I-Lan and Hwa-Lien counties. 111 of them were returned and 89 were completely answered. The retrieved rate is 29.52% and valid response rate is 80.18%. The 5-point scale is employed in the questionnaire to assess each respondent’s opinion about importance (IMP), satisfaction (SAT), benefit (BEN) and intention (INT) of website functions. 16 variables of IMP and SAT are reduced into 5 dimensions

using factor analysis. These 5 dimensions could be distinguished to IQ and SQ. There are three dimensions of IQ: description, map, and promotion; and two dimensions of SQ: navigation and interactivity. These dimensions and variables are described in Table 2.

Respondents indicated their opinion with 5-point scale: 1=weak, and 5=strong for IMP; 1=high dissatisfaction and 5=high satisfaction for SAT; 1=low and 5=high for BEN and INT.

### Description statistics

Table 3 shows the mean, standard deviation, Cronbach's Alpha, performance gaps (satisfaction minus importance) and t-test statistics to test if the performance gaps are non-zero for each IQ and SQ item. The guesthouse supervisors hold the 1, 2., 3., 5., and 12. items are important and deem the 8., 9., 10., 14. and 15. items are satisfied.

Comparing the IMP and SAT of all dimensions, it is found that the description dimension is more important and the promotion dimension is more dissatisfied for the guesthouse supervisors. The small standard deviations of all dimensions and items, which are between 0.53 and 1.02, indicate the high degree of agreement among the respondents in their perception of importance and satisfaction.

All gaps between IMP and SAT of 16 items and 5 dimensions are positive and significantly different from zero. It reveals that there is no item belong satiated needs, i.e. satisfaction is above than importance. Therefore, It is possible to improve any item or dimension. The 9., 12., 15. and 16. items about services and activities to consumers, website easy to be found, back-office management and Website renown have larger gaps between IMP and SAT.

Variable	Dimension	Definition	
Importance (IMP)	IQ	Description	Concerned with such as introduce on individual guesthouse and website artistic. It is including equipment, environment, guest room, picture and website artistic.
		Map	Concerned with such as the map of the guesthouse and scenic spots. It is including arriving to guesthouse, scenic spots, and tourist information.
		Promotion	Concerned with the website promotion. It is including expense rationality, services and activities to consumers provide by ASP, and Ad page.
	SQ	Navigation	Concerned with such as easy to be searched and easy to be connected to the internet. It is including own domain name of guesthouse e-shop, website easy to be found, and quick loads.
		Interactivity	Concerned with such as capability of room order on line and Website renown of industry website. It is including room capability of room order on line, back-office management, and Website renown and number of visitors of industry website.
Satisfaction (SAT)	Same as those of Importance		
Benefit (BEN)		Gained from individual and industry website. It is including consumers' reliance, guesthouse fame, amount of consumers, occupancy rate, marketing cost, and revenue.	
Intention (INT)		The inclination of guesthouse managers to purchase extra EC services, such as joining more industry websites, internet Ad, and on-line room ordering function.	

Table 2. Website measurement

Cronbach's Alpha in Table 3 and Table 4 is to assess the internal consistency and stability of the questionnaire. Nunally [25] reported that if the Cronbach's Alpha is greater than 0.8, the reliability is considered acceptable; if the Cronbach's Alpha is below 0.3, the reliability is unacceptable. In our study, there is only one importance dimension (interactivity) with unacceptable reliability.

Item No.	Dimension / Item	Mean		Standard deviation		Cronbach's Alpha		Gap (SAT-IMP)	Pr >  t
<b>Information Quality (IQ)</b>									
<b>Description Dimension</b>									
		<b>IMP</b>	<b>SAT</b>	<b>IMP</b>	<b>SAT</b>	<b>IMP</b>	<b>SAT</b>		
1	Introduction of the equipment and environment of guesthouse	4.58	3.74	0.44	0.63	0.75	0.88	-0.84	0.000*
2	Introduction of the guest room	4.75	3.78	0.53	0.77			-0.97	0.000*
3	Artistry of the guesthouse pictures	4.55	3.80	0.60	0.74			-0.75	0.000*
4	Artistry of E-shop web-pages	4.62	3.74	0.57	0.72			-0.88	0.000*
4	Artistry of E-shop web-pages	4.39	3.63	0.61	0.70			-0.76	0.000*
<b>Map Dimension</b>									
5	Information of reaching guesthouse	<b>4.39</b>	<b>3.56</b>	<b>0.49</b>	<b>0.69</b>	<b>0.70</b>	<b>0.81</b>	<b>-0.83</b>	<b>0.000*</b>
5	Information of reaching guesthouse	4.58	3.67	0.56	0.85			-0.91	0.000*
6	Information of scenic spots	4.37	3.58	0.66	0.84			-0.79	0.000*
7	Tourist information	4.22	3.43	0.62	0.75			-0.79	0.000*

		<b>4.03</b>	<b>2.92</b>	<b>0.64</b>	<b>0.65</b>	<b>0.64</b>	<b>0.72</b>	<b>-1.11</b>	<b>0.000*</b>
	<b>Promotion Dimension</b>								
8	Expense rationality	4.04	2.98	0.80	0.75			-1.06	0.000*
9	Services and activities for consumers provided by ASP	4.00	2.81	0.89	0.80			-1.19	0.000*
10	Ad page	4.03	2.98	0.82	0.87			-1.05	0.000*
	<b>System Quality (SQ)</b>	<b>IMP</b>	<b>SAT</b>	<b>IMP</b>	<b>SAT</b>	<b>IMP</b>	<b>SAT</b>		
	<b>Navigation Dimension</b>	<b>4.42</b>	<b>3.52</b>	<b>0.44</b>	<b>0.63</b>	<b>0.38</b>	<b>0.54</b>	<b>-0.90</b>	<b>0.000*</b>
11	Own domain name of guesthouse e-shop	4.25	3.72	0.74	0.88			-0.53	0.000*
12	E-shop is easy to be found in internet.	4.72	3.56	0.48	0.98			-1.16	0.000*
13	Quick loads.	4.30	3.28	0.71	0.72			-1.02	0.000*
	<b>Interactivity Dimension</b>	<b>3.95</b>	<b>3.07</b>	<b>0.55</b>	<b>0.59</b>	<b>0.20</b>	<b>0.44</b>	<b>-0.88</b>	<b>0.000*</b>
14	Capability of room order on line	3.26	2.91	1.02	0.78			-0.35	0.003*
15	Back-office management	4.10	2.94	0.88	0.97			-1.16	0.000*
16	Website renown and number of visitors	4.48	3.36	0.76	0.80			-1.12	0.000*

**Note:** Importance (IMP), Satisfaction (SAT).

\* Indicates rejection the hypothesis that the Gaps are equal zero at significant level 5%.

Table 3. Statistics of importance and satisfaction

Table 4 shows the mean, standard deviation, Cronbach's Alpha, benefit gaps between e-shop and industry websites and t-test statistics to test if the benefit gaps are non-zero. The raise of website renown, consumers' reliance, number of customer and occupancy rate are the outstanding benefits from e-shop. The raise of website renown and consumers' reliance are the most important benefits from industry website. Among the INT, the guesthouse supervisors have the highest intention to pay for Ad expenses via website. The small standard deviations in Table 4 (between 0.65 to 1.05) indicates a high degree of agreement among the respondents in their perception of benefit and intention.

Except the benefit of reducing marketing cost, the benefits between e-shop and industry websites are significant not equal. The benefits from e-shop are significant higher than from industry website.

Item No.	Item	Mean		Standard		Cronbach's Alpha		Gap (Esh-Ind)	Pr >  t
		Esh	Ind	Esh	Ind	Esh	Ind		
	<b>Benefit of Websites (6 items)</b>	<b>4.08</b>	<b>3.86</b>	<b>0.64</b>	<b>0.68</b>	<b>0.91</b>	<b>0.92</b>	<b>0.22</b>	<b>0.001*</b>
17	Consumers' reliance is raised.	4.22	4.03	0.78	0.73			0.19	0.014*
18	Guesthouse renown is raised.	4.30	4.12	0.65	0.62			0.18	0.009*
19	Customers increase.	4.24	3.96	0.71	0.78			0.28	0.001*
20	Occupancy rate is raised.	4.22	3.89	0.72	0.80			0.33	0.000*
21	Marketing cost is reduced.	3.49	3.35	1.00	1.05			0.14	0.074
22	Revenue increases	4.00	3.83	0.72	0.84			0.17	0.035*
	<b>Intention (4 items)</b>	<b>3.29</b>		<b>0.75</b>		<b>0.81</b>			
23	Join more industry website is better.	3.30		1.03					
24	Willingness to pay for Ad expense via website.	3.60		0.84					
25	Willingness to pay for Ad expense via e-letter.	3.24		1.01					
26	Willing to pay for a new industry website that offers new functions.	3.03		0.87					
	<b>Total</b>					<b>0.91</b>			

**Note:** Benefits, Intention (INT), Esh(E-shop), Ind (Industry).

\* Indicates rejection the hypothesis that the Gaps are equal zero at significant level 5%.

Table 4. Statistics of benefit and intention

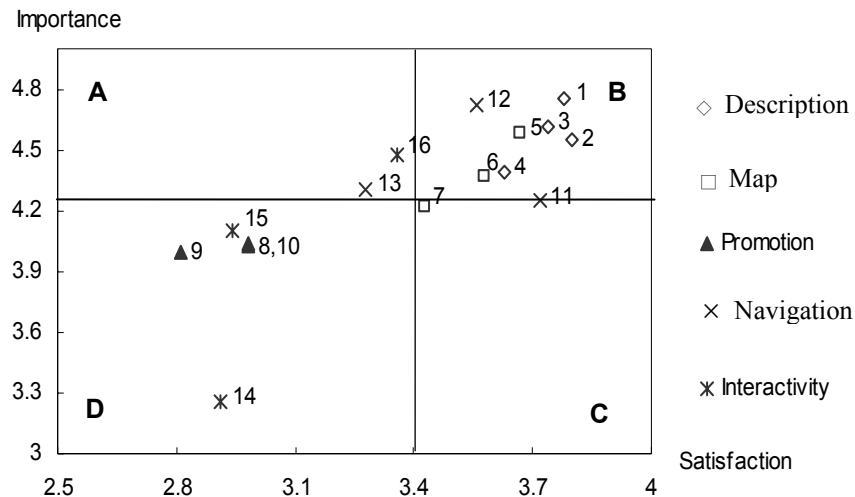
#### 4. Results and Analysis

This section presents the results of the importance-performance analysis and the regression results of equations in Table 3.

##### *Importance-Performance analysis (IPA)*

The Quadrants of Importance-Performance Analysis provides management with a useful focus for developing marketing strategies [5]. The dividing point of IPA for distinguishing the four quadrants are based on the average of importance and satisfaction [6]. According to the data of Table 3, Figure 4 is the IP Map of the 16 importance-satisfaction items of the websites, which are grouped into five dimensions.

Figure 4 shows that most of the items fall into quadrant B (Keep Up the Good Work) and D (Low Priority), just two items fall into quadrant A (Concentrate Here). It is possible to improvement all dimensions performance because there is no item belong satiated need. Figure 4 indicates that some of the resources could be shifted away to improve the satisfaction. Resources saved from quadrant C (tourist information and own domain name of guesthouse e-shop) could be utilized to focus additional attention on the items found in quadrant A (quick loads and renown). The resources used for the items in quadrant B should continue being expended. Increasing the resources on the items of quadrant B would not provide significant additional benefits and may be a waste of resources. If ASP has additional resources available, greater benefits could be derived from their application on the items in quadrant A. The items in quadrant D could help managers avoid the common mistakes of increasing satisfaction levels for items that not perceived as important by those directly impacted.



Note: The number of each point is the number of the respective variable in Table 3.

Figure 4. Importance-Performance map

Importance - Satisfaction hypotheses

The regression results of equations in Table 1 are reported in Table 5~7. These tables mention the variables, coefficient, standard deviation of coefficient, p-value of t-test,  $R^2$  and p-value of F-test. The amount of variation explained by the regression models are ranging from 0.87 to 41.96 percent, indicate the model fitting is not well because of the lack of parameters to capture the dependent variable.

Using the OLS estimation results of equation (1-1) and (1-2) are presented in Table 5. It reveals that satisfaction is significantly influenced by the importance only on description, map and navigation dimensions. ASP could improve these satisfactions by increasing the cognition of guesthouse supervisor to these dimensions. And it is easy to perceive the contrast that the effects of importance of IQ on their satisfaction are stronger than the importance of SQ ones. This result implies that ASP could increase more satisfaction by increasing the cognition of guesthouse supervisor to the IQ dimension.

Dimension	Dependent Variable	Independent Variable	Coefficient	Standard Deviation	P-value of t-test	$R^2$	P-value of F-test
	Satisfaction	Importance					
IQ	Description	Constant	1.3964	0.6601	0.0372*	0.1272	0.0006**
		Description	0.5110	0.1435	0.0006*		
	Map	Constant	1.8236	0.6480	0.0060*	0.0772	0.0084**
		Map	0.3956	0.1466	0.0084*		
SQ	Promotion	Constant	2.4483	0.4418	0.0000*	0.0133	0.2814
		Promotion	0.1175	0.1084	0.2814		
SQ	Navigation	Constant	1.8124	0.6561	0.0070*	0.0729	0.0105**
		Navigation	0.3862	0.1476	0.0105*		
	Interactivity	Constant	2.6795	0.4520	0.0000*	0.0087	0.3841
		Interactivity	0.0992	0.1134	0.3841		

Note: The definitions of the variables are highlighted in Table 3.

\* Indicates rejection the hypothesis that the coefficient equals zero at significant level 5%.

\*\* Indicates rejection the hypothesis that the  $R^2$  equals zero at significant level 5%.

Table 5. Regression of satisfaction on importance

**Benefit - Satisfaction hypotheses**

Using the stepwise regression, the regression results of five satisfaction dimensions on six items of both e-shop and industry website benefits are presented in Table 6. It indicates that satisfactions of description, map, navigation and interactivity are significantly positively affected by e-shop benefits. And the satisfactions of description, map, promotion and interactivity are ambiguously influenced by industry website benefits. In all items, it reveals that the satisfactions significantly influenced by the benefit only on the items about that guesthouse renown is raised, customers is raised, marketing cost is reduced and revenue is raised. But satisfaction of promotion and navigation are uninfluenced by the e-shop and the industry website, respectively.

Discussing the effects of e-shop benefits to satisfactions, it is found that the e-shop revenue positively influences the satisfactions of description, map and navigation dimensions. And the satisfaction of interactivity dimension is positively affected by reduced marketing cost due to e-shop. The effects of industry website benefits to satisfactions are discussed. The satisfaction of description dimension is positively influenced by guesthouse renown. The satisfactions of map and interactivity dimensions are positively influenced by reduced marketing cost. The satisfaction of promotion dimension is positively influenced by increased revenue.

Unexpectedly, the effect of the benefit of increasing customers by industry website on satisfaction of promotion dimension is negative. The reason could be that the guesthouse supervisors deem that the increased customers, who show their interest in their guesthouse but mostly not stay in their guesthouse, would be a big burden.

Dependent Variable		Independent Variable	Coefficient	Standard Deviation	P-value of t-test	R <sup>2</sup>	P-value of F-test
Dimension	Satisfaction	Benefit					
<b>E-shop Benefit</b>							
IQ	Description	Constant	2.2142	0.3408	0.0000*	0.1913	0.0000**
		BEN22	0.3804	0.0838	0.0000*		
	Map	Constant	2.1125	0.3860	0.0000*	0.1433	0.0003**
		BEN22	0.3623	0.0950	0.0003*		
	Promotion	No coefficient of e-shop benefit is significant.					
SQ	Navigation	Constant	2.2163	0.3492	0.0000*	0.1420	0.0003**
		BEN22	0.3261	0.0859	0.0003*		
	Interactivity	Constant	2.2316	0.2083	0.0000*	0.1680	0.0001**
		BEN21	0.2403	0.0573	0.0001*		
<b>Industry Website Benefit</b>							
IQ	Description	Constant	2.3380	0.4286	0.0000*	0.1111	0.0014**
		BEN18	0.3390	0.1028	0.0014*		
	Map	Constant	3.0658	0.2424	0.0000*	0.0501	0.0350**
		BEN21	0.1481	0.0692	0.0350*		
	Promotion	Constant	2.5633	0.3425	0.0000*	0.1179	0.0045**
		BEN22	0.4335	0.1294	0.0012*		
		BEN19	-0.3294	0.1394	0.0204*		
SQ	Navigation	No coefficient of industry website benefit is significant.					
	Interactivity	Constant	2.5098	0.2014	0.0000*	0.0891	0.0045**
		BEN21	0.1676	0.0574	0.0045*		

Note: The definitions of the variables are highlighted in Table 3 and Table 4.

\* Indicates rejection the hypothesis that the coefficient equals zero at significant level 5%.

\*\* Indicates rejection the hypothesis that the R<sup>2</sup> equals zero at significant level 5%.

Table 6. Regression of satisfaction dimensions on benefit items

**Benefit – and Satisfaction – Intention hypotheses**

Using the stepwise regression, the regression results of four intentions on five satisfaction dimensions and six items of both e-shop and industry website benefits are presented in Table 7. It indicates that the intentions significantly positively influenced by the benefit items of guesthouse renown, occupancy rate, marketing cost and revenue.

Focusing on the effects of e-shop benefits to intentions, it is found that the effect of benefit of raising occupancy rate by e-shop on the intention of joining more industry website, raised revenue on the willingness to pay for Ad expenses, renown of guesthouse on the willingness to pay for e-letter Ad, and reducing marketing cost on the willingness to pay for new functions are positively, respectively.

Focusing on the effects of industry website benefits to intentions, it is found that the effect of benefit of renown by industry website on intention of joining more industry website, willingness to pay for Ad expenses and e-letter are positively. The effect of benefit of reducing marketing cost by industry website on intention of joining more industry website, willingness to pay for new functions are positively.

The effects of satisfactions to intentions are insignificant. It implies that the mentioned intentions are not influenced by the satisfactions, but by the benefits of e-shop and industry websites.



Dependent Variable	Independent Variable	Coefficient	Standard Deviation	P-value of t-test	R <sup>2</sup>	P-value of F-test
Intention	Benefit / Satisfaction					
<b>E-shop Benefit</b>						
INT <sub>23</sub>	Constant	1.0815	0.6099	0.0797	0.1356	0.0004**
	BEN <sub>20</sub>	0.5259	0.1423	0.0004*		
INT <sub>24</sub>	Constant	2.2042	0.4802	0.0000*	0.0906	0.0042**
	BEN <sub>22</sub>	0.3478	0.1182	0.0042*		
INT <sub>25</sub>	Constant	1.6426	0.7089	0.0228*	0.0560	0.0255**
	BEN <sub>18</sub>	0.3703	0.1629	0.0255*		
INT <sub>26</sub>	Constant	2.4193	0.3322	0.0000*	0.0408	0.0484**
	BEN <sub>21</sub>	0.1758	0.0891	0.0484*		
<b>Industry Website Benefit</b>						
INT <sub>23</sub>	Constant	-0.0375	0.6331	0.9529	0.2821	0.0000**
	BEN <sub>18</sub>	0.6314	0.1768	0.0006*		
	BEN <sub>21</sub>	0.2201	0.1045	0.0381*		
INT <sub>24</sub>	Constant	-0.0144	0.4602	0.9752	0.4196	0.0000**
	BEN <sub>18</sub>	0.8754	0.1104	0.0000*		
INT <sub>25</sub>	Constant	0.3671	0.6619	0.5806	0.1808	0.0000**
	BEN <sub>18</sub>	0.6957	0.1588	0.0000*		
INT <sub>26</sub>	Constant	1.9215	0.2875	0.0000*	0.1587	0.0001**
	BEN <sub>21</sub>	0.3322	0.0820	0.0001*		
INT <sub>n</sub>	Satisfaction	No coefficient of SAT <sub>IQ</sub> and SAT <sub>SQ</sub> is significant.				

Note: The definitions of the variables are highlighted in Table 3 and Table 4.

\* Indicates rejection the hypothesis that the coefficient equals zero at significant level 5%.

\*\* Indicates rejection the hypothesis that the  $R^2$  equals zero at significant level 5%.

Table 7. Regression of intentions on satisfaction dimensions and benefit items

## 5. Conclusions

The purpose of this paper was to demonstrate the relationship of importance, satisfaction, benefit and intention of both e-shop and industry websites of guesthouse.

Since none of 16 e-shop and industry website functions has high satisfaction but low importance, there are opportunities for ASP to improve all functions of website. ASP could shift its resources from the functions of tourist information, and the own domain name of guesthouse e-shop to the functions of quick loads and renown to improve the satisfaction. ASP could improve the satisfaction by means of readjusting the cognition of guesthouse supervisor to IQ and SQ dimensions. It is found that the benefits created by e-shop and industry website influence the satisfactions and intentions, but the intentions are not influenced by the satisfactions obviously. It implies that the intentions of guesthouse supervisors are only based on the benefits. ASP could reinforce the intentions with raising the website benefits.

The results of this paper could provide ASP for guesthouse websites more effective strategies to optimize resource allocation in the online environment.

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