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Integrative Analysis on Service Quality and User Satisfaction of Wired and Mobile Internet : A Case Study in Korea*

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ABSTRACT

This paper investigates the relationship of service quality and user satisfaction in the wired and mobile Internet services based on the integrative framework of both systems. Given a moderate level of reliability and validity, the commonly driven dimensions for measuring service quality include responsiveness, assurance, empathy, convenience, usefulness, and diversity. User satisfaction is measurable by the dimensions of communication/entertainment, finance/economics, location/geography, and information/consulting. We apply the MANOVA tests to evaluate whether each of the service quality dimensions has an overall influence on user satisfaction. Next, multiple regression analyses are conducted to check if unique positive effect exists between each combination of service quality dimensions and user satisfaction dimensions. The results show that service quality must be taken care of with respect to the assurance dimension in order to enhance customer satisfaction in the dimensions of location/geography, which will contribute to increasing the utilization of mobile service. For improving user satisfaction in the dimension of information/consulting, service quality must be supported with respect to assurance and empathy in the mobile Internet market, in addition to diversity, which is the only significant service quality in the wired Internet service.

Key words: Service Quality, User Satisfaction, Wired Internet, Mobile Internet

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1. Introduction

According to the statistics released by the Ministry of Information and Communication of Korea [13], the number of mobile Internet subscribers has reached 36 million in terms of terminal counts as of September 2005. This figure outnumbers the high-speed wired Internet subscribers, which is 12 million. Due to its mobility, the demand for mobile Internet increased exponentially. However, in comparison with the wired Internet use, the use of mobile is quite limited to the youth group, and the usage is also biased to a limited number of functions. Thus, the statistics about the mobile Internet users who utilize various functions have not been analyzed. The teenager uses the mobile Internet most. 87.0% of the ages of 12 to 19 are frequent users; 73.1% among 20s; and 42.7% among 30s [12]. Those in their 20's showed the highest increasing rate of use, which is up 10.4% from the previous year. The present study surveyed these mobile Internet users in their 20's. The teens have some difficulty in understanding the survey questionnaire and providing sincere answers, while those in their 30's are not appropriate to provide adequate size of mass because they mostly use only a small number of basic functions. In contrast, those in their 20's would provide faithful responses in the survey with adequate sizes of samples.

Since the introduction of Internet, a number of studies have been conducted on various themes. Service has shifted from the traditional modem-based wired Internet to the high speed wired Internet, and mobile Internet service is prevalent in recent years. The literature review reveals that most commonly appearing subjects include the quality of service, the degree of customer satisfaction, customer analysis, and the behavioral pattern of electronic commerce [6, 10, 15]. Recent studies on mobile Internet have dealt with similar subjects. However, most of the studies have been conducted separately for wired and mobile internet services, and none of studies, to our best knowledge, has shown integrated framework. In the present study, we investigate the relationship of the overall service quality and user satisfaction, from an integrative perspective, among the users who frequently use both the wired and mobile Internet services. We set up the common measurement dimension for both the wired and mobile Internet services, and evaluate the integrative relationship between service quality and user satisfaction.

2. Internet Service

2.1 Quality of Internet Service

Zeithaml *et al.* [21] developed the "SERVQUAL" model wherein service quality is measurable by the five attributes–tangibles, reliability, responsiveness, assurance, and empathy. Since then, this model has been widely used as the metrics of service quality. In particular, service quality is measured by comparing the differences between the expected values of the five attributes before experiencing the service and the perceived ones of the attributes after experiencing. Former studies about the wired Internet service often removed some irrelevant attributes out of the SERVQUAL and added additional ones depending on the industry they analyzed. On the other hand, mobile Internet service usually introduces dimensions such as portability, accessibility, and versatility (i.e., real time search and communication) [2, 19]. Also included in the measurements are the degree of technology acceptance and the ease of use [4, 20]. In short, most studies have been interested in how systematically, adequately, precisely, variously, and objectively the information and knowledge are provided to the Internet users [2, 7].

2.2 User satisfaction

Quite a few studies have focused on analyzing the determinants of user satisfaction in relation to the wired Internet service. For example, Dellaert and Kahn [5] discovered the negative effect of waiting time in Internet service use on the evaluation of the website. Ahn and Lee [1] analyzed that the factors that affect the financial activities such as bill payment through the Internet include the service speed, the education level of users, the income level of users, the duration of Internet use, and the frequency of Internet use. Whether the electronic commerce is continuously used or not is affected by the user's perceived degree of satisfaction in terms of convenience, reliability, and the product of their transactions. Cho *et al.* [3] analyzed user satisfaction on the multi-dimensions, and compared the behavioral patterns between the high speed Internet users and the traditional modem-based Internet users.

As the portable terminal became available at a reasonable price, the usage of mobile Internet increased rapidly. Studies on mobile Internet service are currently very

active. Shin [18] illustrated that the factors causing user dissatisfaction with mobile Internet service are service fee, speed, and the contents of service; and the service speed appeared to be the most influential factor. Park and Chang [16] discovered that the inconvenience in using the mobile Internet service is a crucial factor for the utilization level of service. Besides, lack of useful information, the inconvenience of use, and security/stability problem (including the interruption of service connection) of the system are important for the users' willingness to continue to use mobile Internet service. The obstacles that prevented the utilization of mobile electronic commerce are downloading time, disruptive connection, security, user interface given the relatively small size of input-output device, and battery use time [17]. From an industry point of view, the Korean Internet Information Institution [11] found that high fee, low speed, and the bad quality of connection are current problems, and that user satisfaction is determined by the ease of using the portable terminal, information recency, fee, and speed.

In the main stream of research with respect to the wired Internet, many studies analyzed the relationship of service quality and customer satisfaction, and illustrated that increase in customer satisfaction has a positive impact on customer loyalty and retention. In the studies of mobile Internet service, the main focuses were investigating the various service levels. Also, many exploratory studies have been conducted on the factors of obstructing the utilization of mobile Internet. The present study attempts to investigate the relationship of service quality and user satisfaction in the integrative framework of the wired and mobile Internet service by developing unified dimensions for both services.

3. Research Methodology

3.1 Research model and hypotheses

Figure 1 depicts the research model of the present study. We introduce the six dimensions of service quality, which are common to both the wired and mobile Internet services. As suggested in the review of literature, we adopt the dimensions of responsiveness, assurance, and empathy on the basis of the SERVQUAL model [21]. In addition, we adopt three more dimensions to measure service quality, which are conven-

ience [2, 19], usefulness [4, 20], and diversity [2, 7]. Responsiveness refers to the attitude of service providers who are willing to assist customers, provide prompt services, and inform customers correctly. Assurance refers to the ability of providing services by respecting and giving the best attention to customers with the appropriate support of Internet systems. Empathy means that service provider exhibits concerns and interests for customers with full understanding of customers' needs. Convenience refers to the convenience in information search, the ease of using the service, and the promptness in providing the service. Usefulness refers to how effectively a customer acquires his/her needs through the Internet system with a minimal amount of time and effort. Diversity refers to how well the Internet system is organized, and provides a wide variety of services/products in a general and comprehensive manner.

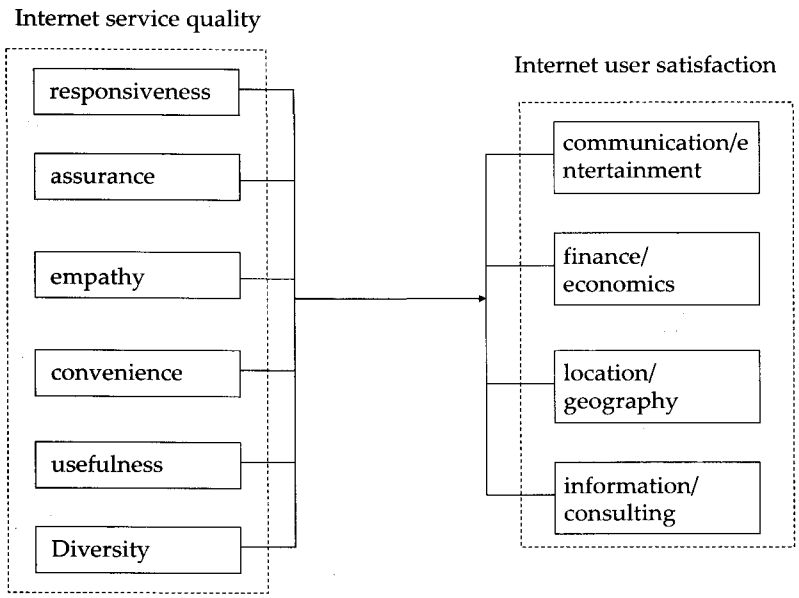

Figure 1. Research model for wired and mobile Internet service

As for the methods of classifying customer satisfaction on Internet service, there have been various approaches suggested by many studies and institutes. For example, the Korea Information Strategy Development Institute (KISDI) classified the kinds of Internet services into marketing service, transaction support/electronic commerce service, portal service, value-added communication service, Internet media/entertain-

nt service, and specialized information/consulting service. In contrast, the Korea Information Technology Industry Promotion Agency (KIPA), based on the digital contents classification system, broke the Internet services down into financial/economics, household/living, entertainment, medical/health, law, location, digital education, and electronic publication categories. In the present study, we introduce the following four dimensions that are commonly applied to both the wired and mobile Internet services. First, user satisfaction in the communication/entertainment dimension includes the evaluation upon the services with respect to portal site, community group and chatting, news, sports, entertainment reports, music, broadcasting, concert ticketing, and so on. Second, user satisfaction in the finance/economics dimension includes the evaluation upon the services with respect to Internet banking, inquiry/transfer/erification agency, securities/economics information, and electronic commerce/uction. Third, the location/geography dimension includes the evaluation upon the services with respect to location positioning information, searching friends, traffic information, and so on. Lastly, the information/consulting dimension includes the evaluation upon the services with respect to law, taxation, accounting consulting, and market and/or public opinion researches.

In summary, the quality of service is defined by the aforementioned six dimensions, and user satisfaction by the four dimensions. Using these defined metrics, we test hypotheses at the multivariate and univariate levels for the wired and mobile Internet services. Multivariate analysis verifies whether each of the six service quality dimensions has an overall influence on the user satisfaction. Next, univariate analysis examines whether each of the six service quality dimensions has a positive influence on each of the four user satisfaction dimensions.

Multivariate level hypotheses

[Hypothesis M1]

The users' perceived responsiveness upon the Internet service has an overall effect on user satisfaction.

[Hypothesis M2]

The users' perceived assurance upon the Internet service has an overall effect on user satisfaction.

[Hypothesis M3]
The users' perceived empathy upon the Internet service has an overall effect on user satisfaction.
[Hypothesis M4]
The users' perceived convenience upon the Internet service has an overall effect on user satisfaction.
[Hypothesis M5]
The users' perceived usefulness upon the Internet service has an overall effect on user satisfaction.
[Hypothesis M6]
The users' perceived diversity upon the Internet service has an overall effect on user satisfaction.

Univariate level hypotheses
[Hypotheses U1-1, U2-1, U3-1, U4-1, U5-1, U6-1]

Each of the users' perceptions of service quality in responsiveness, assurance, empathy, convenience, usefulness, and diversity separately has a unique positive effect on the communication/entertainment dimension of user satisfaction.

For example, U1-1 refers to the hypothesis such that the user's perception in responsiveness has a unique positive effect on the communication/entertainment dimension of user satisfaction.
[Hypotheses U1-2, U2-2, U3-2, U4-2, U5-2, U6-2]

Each of the users' perceptions of service quality in responsiveness, assurance, empathy, convenience, usefulness, and diversity separately has a unique positive effect on the finance/economics dimension of user satisfaction.
[Hypotheses U1-3, U2-3, U3-3, U4-3, U5-3, U6-3]

Each of the users' perceptions of service quality in responsiveness, assurance, empathy, convenience, usefulness, and diversity separately has a unique positive effect on the location/geography dimension of user satisfaction.
[Hypotheses U1-4, U2-4, U3-4, U4-4, U5-4, U6-4]

Each of the users' perceptions of service quality in responsiveness, assurance, empathy, convenience, usefulness, and diversity separately has a unique positive effect on the information/consulting dimension of user satisfaction.

3.2 Data Cllection and Smmary of Srvey

The survey was answered by the students attending four universities in Korea in April, 2006. We conducted a pilot study prior to the main study in order to assure the reliability and validity of the measurements. For the main study, we used 276 responses among 563 distributed survey questionnaires for data analysis after excluding incomplete and unfaithful responses. As discussed in Section 1, the subjects of this study were naturally limited to those in their 20's who would use a wide variety of mobile Internet services in a practical sense and would answer the questionnaires correctly and faithfully. Even with these limited subjects, complete response rate is less than 50% because many subjects were using the mobile Internet services in a very limited manner. The summary of the survey questionnaire with items for the six dimensions of service quality and the four dimensions of user satisfaction is presented in Appendix 1. All question items are answered on a 7–point Likert scale where 1 denotes for "completely disagree" and 7 for "completely agree."

4. Hypotheses Testing and Inferences

4.1 Response Characteristics

Notable demographic characteristics are not found on the subjects, partly because all subjects are aged 20s. The comparisons of service quality and user satisfaction between the wired and mobile Internet services are illustrated in Figures 2 and 3. With respect to service quality, the average ratings of responsiveness, assurance, and empathy dimensions are not substantially different between the wired and mobile Internet services. However, the perceived dimensions of convenience, usefulness, and diversity show considerably higher average scores for the wired services compared to the mobile service. With respect to user satisfaction, the mobile Internet service receives marginally higher rating in the dimension of location/geography, while the wired Internet service receives higher evaluation in other three dimensions.

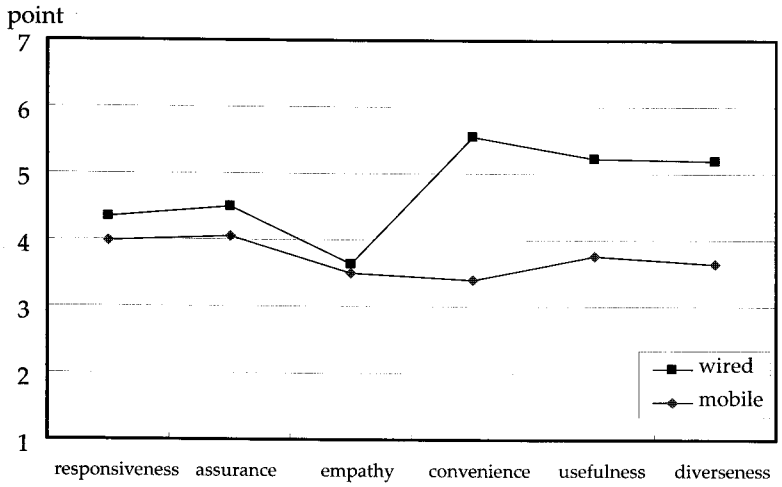

Figure 2. Comparison of service quality between the wired and mobile Internet services

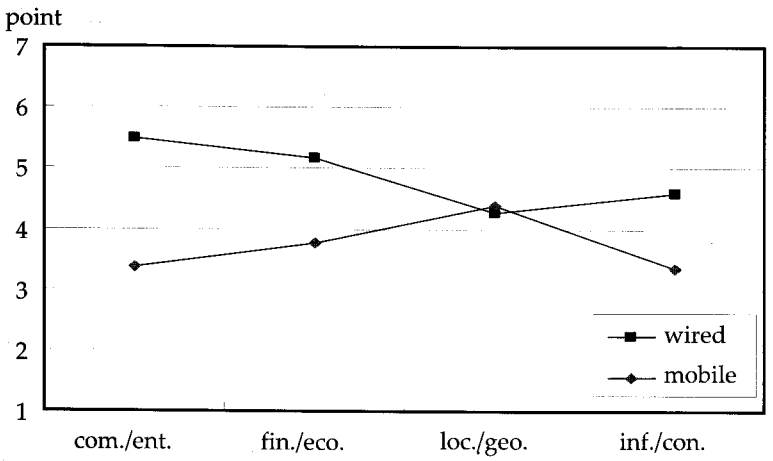

Figure 3. Comparison of user satisfaction between the wired and mobile Internet services

4.2 Reliability and Validity Test of the Measurements

In order to check whether the measurements of this study are reasonable in terms of reliability and validity, a few relevant tests are applied. Note that reliability can be assured by the Cronbach's alpha coefficient of 0.6 or higher value for an exploratory study [14]. The service quality measures in the wired Internet service show the following Cronbach's alpha coefficients: 0.7009 for the responsiveness, 0.7418 for the assurance, 0.7418 for the empathy, 0.6730 for the convenience, 0.6673 for the usefulness, and 0.6679 for the diversity. The alpha coefficients of service qualities in the

mobile Internet service are 0.7643 for the responsiveness, 0.7669 for the assurance, 0.7926 for the empathy, 0.7664 for the convenience, 0.7810 for the usefulness, and 0.7698 for the diversity. Thus, all measurements are reasonable with respect to reliability. On the other hand, the reasonable level of reliability is also acquired for the user satisfaction measures. In the wired Internet service, the alpha coefficients are 0.6212 for the communication/entertainment, 0.5908 for the finance/economics, 0.7500 for the location /geography, and 0.6403 for the information/consulting. In the mobile Internet service, these figures are 0.6475 for the communication/entertainment, 0.6308 for the finance/economics, 0.7759 for the location/geography, and 0.6649 for the information/consulting.

The principal component analysis is carried out for checking the convergent validity where the factors with the eigenvalue of 1.0 or higher are selected. Given the suggestion by Joseph *et al.* [9] such that the factor loading of 0.5 or higher is desirable, all variables are well factored with the factor loading of 0.6 or higher. In Table 1, the factor loadings of 0.6 or higher are highlighted. Here, the same items yield high factor loadings for the same factors between the wired and mobile Internet services. For user satisfaction measures, the principal component analysis is also conducted and its results are summarized in Table 2. The factored patterns are consistent between the wired and mobile Internet services.

Table 1. Convergent validity for the measures of service quality

	Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
Wired Internet	Eigen value	2.6109	2.3876	2.0791	1.6666	1.6076	1.3207
	Responsiveness 1	-0.0425	0.0845	0.7808	0.1660	0.0179	0.2786
	Responsiveness 2	0.1671	0.0399	0.8420	0.0996	0.1672	-0.0604
	Responsiveness 3	0.0159	0.0806	0.7265	0.2228	0.2749	-0.0779
	Assurance 1	0.0912	0.1047	0.2068	0.1302	0.8142	0.1396
	Assurance 2	0.0833	0.0998	0.1594	0.1588	0.8442	0.0632
	Empathy 1	0.0965	0.0972	0.3135	0.8435	0.1183	-0.0344
	Empathy 2	-0.0736	-0.0505	0.1361	0.8950	0.1819	0.0078
	Convenience 1	0.8350	0.2604	0.0530	-0.0455	0.1011	0.1634
	Convenience 2	0.8270	0.2452	-0.0280	0.0303	0.0406	0.2109
	Convenience 3	0.7928	0.3100	0.1185	0.0414	0.0691	0.1074
	Usefulness 1	0.2992	0.2193	0.0286	-0.0291	0.1549	0.8340
	Usefulness 2	0.4777	0.3724	0.1161	-0.0162	0.1327	0.6036
	Diversity 1	0.2302	0.7802	0.0761	0.1276	0.0636	0.1919
	Diversity 2	0.2989	0.8114	0.0410	-0.0426	0.0994	0.1553
	Diversity3	0.2880	0.8134	0.0913	-0.0280	0.0994	0.0714

Mobile Internet	Eigen value	2.3090	2.1850	2.1713	1.6870	1.6441	1.5577
	Responsiveness1	0.1546	0.8148	0.0053	0.1501	0.2172	0.1120
	Responsiveness2	0.1294	0.8472	0.1884	0.0763	0.1007	0.0956
	Responsiveness3	0.1149	0.6624	0.1230	0.2352	0.4045	0.1522
	Assurance1	0.0812	0.3650	0.2200	0.2427	0.7248	0.0130
	Assurance2	0.2236	0.2220	0.0959	0.0762	0.8575	0.1320
	Empathy1	0.1245	0.2128	0.2232	0.7982	0.1985	-0.0683
	Empathy2	0.0701	0.1281	0.0829	0.8879	0.0766	0.1915
	Convenience1	0.1746	0.0979	0.7677	0.2249	0.0711	0.2385
	Convenience2	0.2967	0.0884	0.7361	0.0210	0.1685	0.0917
	Convenience3	0.1531	0.1104	0.8118	0.1199	0.0811	0.1641
	Usefulness1	0.1820	0.1621	0.2490	0.0343	-0.0081	0.8029
	Usefulness2	0.2675	0.1115	0.1806	0.1112	0.1810	0.7990
	Diversity1	0.7832	0.0850	0.1951	0.0331	0.1790	0.1548
	Diversity2	0.8270	0.1592	0.2373	0.0293	0.0871	0.1621
	Diversity3	0.7964	0.1394	0.1654	0.1795	0.0701	0.1687

Table 2. Convergent validity for the measures of user satisfaction

	Item	Factor 1	Factor 2	Factor 3	Factor 4
Wired Internet	Eigen value	2.8857	2.3318	1.7244	1.6179
	Communication/Entertainment1	0.8057	0.2700	0.1065	0.1354
	Communication/Entertainment2	0.7436	0.3397	0.0389	0.0822
	Communication/Entertainment3	0.8414	0.1616	0.1911	0.1013
	Communication/Entertainment4	0.7931	0.2351	0.1746	0.0158
	Finance/Economics1	0.3159	0.7956	0.1363	0.1850
	Finance/Economics2	0.2666	0.8145	0.2835	0.0653
	Finance/Economics3	0.3158	0.8177	0.1571	0.0124
	Location/Geography1	0.0735	0.0830	0.0890	0.8738
	Location/Geography2	0.1151	0.0767	0.1732	0.8571
	Information/Consulting1	0.1341	0.2160	0.8656	0.1711
	Information/Consulting2	0.1987	0.1938	0.8566	0.1279
Mobile Internet	Eigen value	2.6385	2.4062	1.8884	1.6421
	Communication/Entertainment1	0.8667	0.0833	0.2157	0.0988
	Communication/Entertainment2	0.8175	0.2285	0.2491	-0.0903
	Communication/Entertainment3	0.7056	0.3813	0.2355	0.1243
	Communication/Entertainment4	0.6057	0.4912	-0.0361	0.1882
	Finance/Economics1	0.1378	0.8466	0.0499	0.1836
	Finance/Economics2	0.2409	0.8231	0.2981	0.0743
	Finance/Economics3	0.3907	0.6791	0.2747	0.0668
	Location/Geography1	0.0217	0.1273	0.0111	0.9044
	Location/Geography2	0.1112	0.1329	0.3014	0.8079
	Information/Consulting1	0.2034	0.2203	0.8796	0.0841
	Information/Consulting2	0.2657	0.1508	0.8316	0.2277

4.3 Hypotheses testing

We used the Wilks' Lambda test to assess the overall effect of each quality measure of service on the user satisfaction, and the results are summarized in Table 3. For both the wired and mobile Internet services, the quality measures of convenience, usefulness, and diversity show significant effects on user satisfaction.

Table 3. Wilks' Lambda test results

	Hypothesis	Independent v.	*F*-stat.	*p*-value
Wired	M1	Responsiveness	0.64	0.6360
	M2	Assurance	1.11	0.3542
	M3	Empathy	1.37	0.2441
	M4	Convenience	5.56	0.0003*
	M5	Usefulness	10.51	<0.0001*
	M6	Diversity	10.33	<0.0001*
Mobile	M1	Responsiveness	0.96	0.4282
	M2	Assurance	2.29	0.0605
	M3	Empathy	1.58	0.1807
	M4	Convenience	6.99	<0.0001*
	M5	Usefulness	7.04	<0.0001*
	M6	Diversity	10.66	<0.0001*

Note : * indicates significant at alpha 5%.

Multiple regression models are fitted to the data as the univariate level test. The results for the communication/entertainment dimension are displayed in Table 4; results for the finance/economics dimension are in Table 5; results for the location/geography are in Table 6; and results for the information/consulting are in Table 7. As shown in Table 4, user satisfaction in the communication/entertainment dimension is positively influenced by the convenience, usefulness, and diversity dimensions for both the wired and mobile Internet services. Table 5 shows that the usefulness and diversity dimensions have positive significant effects on the finance/economics dimension of user satisfaction for both the wired and mobile Internet services. On contrast, Tables 6 and 7 display somewhat different results between the wired and mobile Internet services. The usefulness and diversity dimensions retain statistically significant effects on the location/geography dimension of user satisfaction for the wired Internet service, whereas user satisfaction is significantly affected by the assurance, usefulness, and diversity dimensions in the mobile Internet service. The informa-

tion/consulting dimension for the wired Internet service is significantly affected only by the diversity dimension, whereas the assurance, empathy, and diversity dimensions are significant for the mobile Internet service.

Note that user satisfaction in the dimension of location/geography is slightly higher for the mobile Internet service. This may be because people have used the mobile terminal for this purpose while staying outside and experienced satisfaction. To

Table 4. Multiple regression results for the communication/entertainment dimension

	Hypothesis	Independent v.	*t*-stat.	*p*-value
Wired	U1-1	Responsiveness	0.25	0.4049
	U2-1	Assurance	-1.21	0.8864
	U3-1	Empathy	0.77	0.2220
	U4-1	Convenience	4.19	<0.0001*
	U5-1	Usefulness	4.69	<0.0001*
	U6-1	Diversity	5.78	<0.0001*
Mobile	U1-1	Responsiveness	0.54	0.2946
	U2-1	Assurance	1.03	0.1520
	U3-1	Empathy	1.58	0.0577
	U4-1	Convenience	3.08	0.0012*
	U5-1	Usefulness	4.26	<0.0001*
	U6-1	Diversity	5.65	<0.0001*

Note : * indicates significant at alpha 5%.

Table 5. Multiple regression results for the finance/economics dimension

	Hypothesis	Independent v.	*t*-stat.	*p*-value
Wired	U1-2	Responsiveness	0.38	0.3522
	U2-2	Assurance	1.03	0.1517
	U3-2	Empathy	1.20	0.1152
	U4-2	Convenience	1.37	0.0861
	U5-2	Usefulness	3.32	0.0005*
	U6-2	Diversity	4.65	<0.0001*
Mobile	U1-2	Responsiveness	0.25	0.4005
	U2-2	Assurance	1.16	0.1241
	U3-2	Empathy	1.21	0.1128
	U4-2	Convenience	1.15	0.1255
	U5-2	Usefulness	4.20	<0.0001*
	U6-2	Diversity	3.42	0.0004*

Note : * indicates significant at alpha 5%.

further enhance the customer satisfaction with respect to this service dimension and increase the utilization of mobile service, the assurance dimension of service quality must be more emphasized and taken care of. With respect to the information/consulting dimension of user satisfaction, diversity is the only influencing factor for the wired Internet service. However, in the case of the mobile Internet service, the improvement of service quality must be supported in terms of the assurance and empathy dimensions, too.

Table 6. Multiple regression results for the location/geography dimension

	Hypothesis	Independent v.	*t*-stat.	*p*-value
Wired	U1-3	Responsiveness	1.45	0.3522
	U2-3	Assurance	-0.11	0.8483
	U3-3	Empathy	2.00	0.1152
	U4-3	Convenience	-1.76	0.9139
	U5-3	Usefulness	3.76	0.0005*
	U6-3	Diversity	1.68	<0.0001*
Mobile	U1-3	Responsiveness	0.33	0.3709
	U2-3	Assurance	2.67	0.0041*
	U3-3	Empathy	1.17	0.1219
	U4-3	Convenience	-3.98	0.9999
	U5-3	Usefulness	2.51	0.0064*
	U6-3	Diversity	3.19	0.0008*

Note : * indicates significant at alpha 5%.

Table 7. Multiple regression results for the information/consulting dimension

	Hypothesis	Independent v.	*t*-stat.	*p*-value
Wired	U1-4	Responsiveness	1.05	0.1472
	U2-4	Assurance	0.71	0.2380
	U3-4	Empathy	0.37	0.3571
	U4-4	Convenience	1.27	0.1028
	U5-4	Usefulness	0.22	0.4149
	U6-4	Diversity	2.70	0.0038*
Mobile	U1-4	Responsiveness	-1.48	0.9296
	U2-4	Assurance	2.02	0.0223*
	U3-4	Empathy	2.27	0.0122*
	U4-4	Convenience	0.71	0.2394
	U5-4	Usefulness	1.50	0.0681
	U6-4	Diversity	4.11	<0.0001*

Note : * indicates significant at alpha 5%.

5. Concluding Remarks

In the last decade, the advent of the high speed Internet service drew attention on the comparative studies, for example, comparing the differences in user satisfaction between the traditional low speed Internet and the newly emerging high speed Internet. The subjects of studies have been focused on the mobile Internet in recent years. In the present study, we proposed an integrative framework of studying both the wired and mobile Internet services by developing the common dimensions of service quality and user satisfaction for both Internet systems. In the causal analysis of service quality dimensions, we found that the dimensions of convenience, usefulness, and diversity have significant overall effects on user satisfaction for both the wired and mobile Internet services. Among the several multiple regression analyses, the five dimensions of service quality except responsiveness show significant explanatory power case by case. In particular, diversity has a significant effect on all the dimensions of user satisfaction for both the wired and mobile Internet services.

We applied the six dimensions to measure service quality and the four dimensions for measuring user satisfaction. One of the contributions of this study might be found from the fact that the common dimensions of measuring and comparing service quality and user satisfaction are derived for both the wired and mobile Internet services, retaining a moderate level of reliability and validity. In future studies, responsiveness, which turns out to be non-significant service quality in the present study, might be replaced with new dimensions. Also, a structural equation modeling approach may be useful to analyze, in a single model, the interactions between the wired service quality and the mobile user satisfaction, as well as between the mobile service quality and the wired user satisfaction. One of the limitations of the present study might be pointed out that the subjects of study are confined to the aged 20s. Even though this selection of subjects is based on a practical reason such that this group represents those who actively use the various functions of mobile Internet and provide answers in a sincere way, the extension of subjects must be considered for further studies.

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APPINDIX 1

Measurement of the responsiveness quality

- I am notified exactly when the service is provided.
- I can expect prompt service.
- I am aware that the service provider is willingly and rigorously trying to assist customer.

Measurement of the assurance quality

- The service provider cordially respects customer.
- The customer representative who helps me is well supported by proper Internet system for the fulfillment of his/her job.

Measurement of the empathy quality

- I can expect individual cares from the Internet system.
- I can expect individual concerns from the supporting staff.

Measurement of the convenience quality

- It is easy to search information.
- It is easy to learn how to use the system.
- The speed of service is fast.

Measurement of the usefulness quality

- The amount of time and efforts to use the system is not much.
- The system is effective to achieve my goal.

Measurement of the diversity quality

- Service contents are well organized and classified.
- Provided services and products are generic and comprehensive.
- A wide range of products are provided.

Measurement of the communication/entertainment satisfaction

- I am satisfied with search and portal services.
- I am satisfied with community and chatting services.
- I am satisfied with news, sports, and entertainment report services.
- I am satisfied with music, Internet broadcasting, and concert ticketing services.

Measurement of the finance/economics satisfaction

- I am satisfied with Internet banking, inquiry/transfer/verification agency services.
- I am satisfied with securities/economics services.

- I am satisfied with electronic commerce and auction services.

Measurement of the location/geography satisfaction

- I am satisfied with location positioning and friends searching services.
- I am satisfied with traffic information service.

Measurement of the information/consulting satisfaction

- I am satisfied with consulting service on laws, taxation, and accounting.
- I am satisfied with market research and public opinion survey services.