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Realistic Performing Art Information Service: Based on IS Success Model

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Abstract

The development of information and communication technology encourages many customers to use of realistic performing art information service. This study examines empirically the influence of realistic Performing Art Information Service (PAIS) on user satisfaction and usage intention. This study suggests a research model to apply IS success model, which was driven from the paper of Delone and McLean published in 2013, for user acceptance of PAIS. Comprehensive and empirical research on realistic performing area has not been appeared in empirical study. We focused our intention on facilitating the implementation and usage of new IT services. This study empirically conducted survey with data collection of 374 users. This study contributes to enhance the applicability of the Delone & McLean IS success model in the area of new IS service, in particular, in performing art industry.

Keywords: Information Quality, IS Success Model, Net Benefit, Realistic Performing Art Information Service, Service Quality, System Quality, User Satisfaction

1. Introduction

Today, realistic performing art market is showing an annual growth rate of 15% due to increased demand expansion, economic income level, and advanced culture of leisure. Most people are paying more attention to enjoy leisure and have fun during break time. In general, realistic performing art is recognized as a field of the performing arts industry, which provides a special function and devices to increase realistic presence and immersion in the existing performing art. Thus, realistic Performing Art Information Services (PAIS) provide the satisfaction and benefit through additional realistic elements in a form of performance similar to existing information services. Realistic performing art information service has becoming a popular attraction that people spend their time and money, looking at various genres, such as musical, playacting, dance, and concert.

Most of the performing art information services are provided using a variety of media, such as web sites and SNS (Social Network Service). Recently, the performing arts organizations are carrying out marketing activities using Web service and SNS information contents related to performing art. In addition, performing art information service was important to deliver word-of-mouth effects and interpersonal network through communication activities. A variety of media to provide performing art information had related information quality, system quality, service quality and satisfaction. Also, it is very important to identify the relationship between intention to purchase and word of mouth in performing art products[18].

However, performing art information services are processed with the promotion and marketing to unspecified target demand. Most studies on tickets purchasing intention of the performing arts are depending on the facilities of the theater, concert contents, awareness of the actors. Therefore, the variety of media that provides performing art information service need to give a benefit to the user through information quality, service quality and system quality. In the study of the Web site or SNS related to performing art information

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services, most studies focused on social phenomena such as motivational factor and watching experience, physical accessibility (theater, parking area and so on), however, studies based on theoretical framework is lacking[12]. A study on the user acceptance and intention of the information services provided on the Web, had suggested the physical environment for performing watch, intimacy of staff, and the level of performing content, by applying expectation disconfirmation theory to measure the degree to satisfy with the performance[14].

Prior studies from literature review were not enough to explain the quality factors, which provide a variety of information services for spectators to watch the performing art. In addition, these studies were poor to explain the net benefits that audiences felt through performing art information service. Therefore, the study on the acceptance of the performing art information services requires to apply IS success model to explain user satisfaction and net benefits through the quality factors of information services, rather than TAM research that emphasize the relationship between user perception of usefulness and ease of use, and usage intention[15,18]. This study proposed a research model on IS service for PAIS success as a new way to find out strategic direction of realistic performing art service. Based on the IS success model of DeLone and McLean study[7,8], we examine empirically the influence of realistic performing art information services on user satisfaction and usage intention. In addition, this study intends to find a quality factor of the performing art information service.

2. Literature Review and Hypothesis Development

2.1 Performing Art Information Service (PAIS)

A performing art information service is comprised of Contents-Platform-Network-Device (CPND) elements. First, PAIS needs to fill the contents with creative ideas and storytelling production. Second, PAIS is based at the integrated media broadcasting system with Contents Management Systems (CMS), which can store and process realistic multimedia contents. Third, PAIS explores the use of networks for realistic performance including multicasting and seamless environment to ensure Quality Of Service (QOS). Fourth, RPIS needs to identify the various devices of user adoption such as IPTV, PDA, smartphone, tablet and so on. Especially, technical issues in PAIS are bandwidth demand, latency sensitivity, and a strict requirement of synchronization for audio stream and realistic devices, which is linked to contents timeline.

2.2 IS Success Model

DeLone and McLean[7] synthesized previous researches involving IS success into more coherent body of knowledge and provided the guidance to future researchers. In the D&M IS Success Model, "systems quality" measures technical success; "information quality" measures semantic success; and "use, user satisfaction, individual impacts," and "organizational

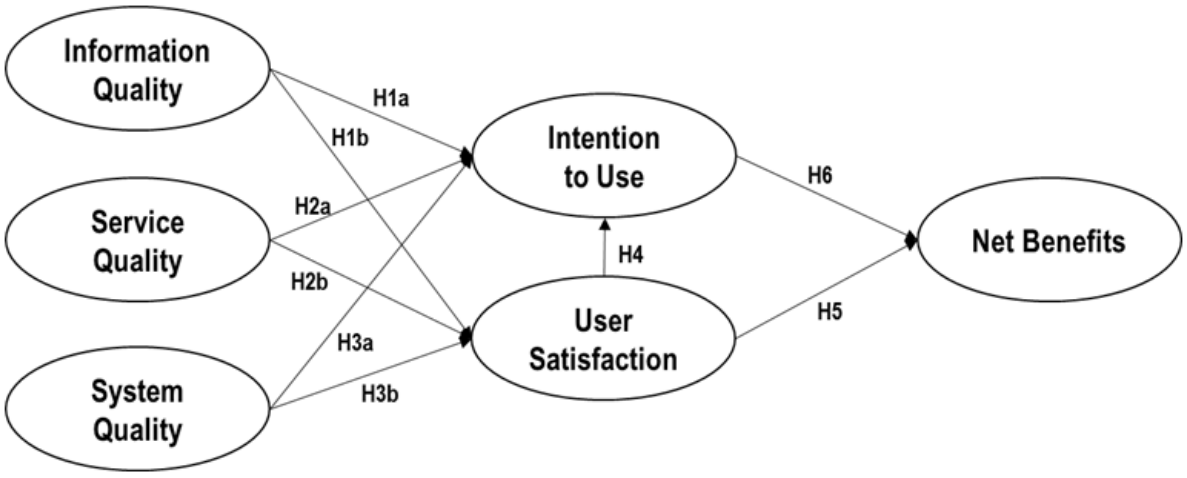

Figure 1. Research model.

impacts" measure effectiveness success. Molla and Licker[17] proposed an e-commerce success model based on the D&M IS Success Model. This section demonstrates how the updated D&M IS Success Model can be adapted to the measurement challenges of the new e-commerce world. This study was composed research model such as Figure 1. This model investigates the relationship between information quality, service quality, system quality on user satisfaction and user net benefits of realistic performing art service.

2.2.1 Information Quality

IS success model is initiated by Delone and McLean[7]. From literature review, they identified six interrelated variables for IS success: system quality, information quality, use, user satisfaction, individual impact, and organizational impact. Although many studies have been conducted on IS success, there is a lack of comprehensive and integrative research on variables that influence success. In a case of new IS service like RPIS, IS success model can provide a reasonable robust description of the relationship between the independent variables and the dependent variables. That is, what determinants have been shown to relate positively to IS success? In this study, we suggested a revised IS success model[20] as a surrogate of research framework for RPIS success. About previous study on information quality, Delone and McLean[8] research shows that, the content of the content amiable and quality for information system are very important to satisfaction and usage intention. Ahituv[1] incorporated five information characteristics into a multi-attribute utility measure of information value: accuracy, timeliness, relevance, aggregation, and formatting. Thus, we hypothesize the relationship between information quality, intention to use, and user satisfaction.

[H1a] Information quality of realistic PAIS has a positive relationship with Intention to use.
[H1b] Information quality of realistic PAIS has a positive relationship with user satisfaction.

2.2.2 Service Quality

The emergence of end user computing in the 1980s placed IS organizations in the dual role of information provider as producing the contents and information product and service provider as providing support for end user developers. The study of service quality was pioneered by marketing scholars[19] and has been a long-standing and highly relevant construct within customer service contexts[6]. According to these scholars, service quality is a customer's global, subjective assessment of the quality of an interaction with a vendor, including the degree to which specific service needs have been met. Service quality has been heretofore applied to offline environments, which are naturally more personal and contact-based. The most widely applied service quality framework is SERVQUAL[19], which articulates customers' salient perceptions about a vendor's service reliability, assurance, empathy, and responsiveness, as well as the tangible aspects of the vendor's infrastructure or appearance. Thus, we hypothesize the relationship between service quality, intention to use, and user satisfaction.

[H2a] Service quality of realistic PAIS has a positive relationship with Intention to use.
[H2b] Service quality of realistic PAIS has a positive relationship with user satisfaction.

2.2.3 System Quality

Hamiton and Chervanly[10], through the analysis of material flow, response time, the required time, information accuracy, reliability and integrity, the system of relevance and system usability to evaluate. According to Delone and McLean[7] information system success model, which generates the information as the information system with the characteristics of their own, the feeling of users in using process namely for the system quality. Harris and Goode[11] puts forward concepts of trust and quality for the significant influencing factor of online book purchasing. Cao et al.[3] used information system success model, which proved that web quality is an important factor. Chin and Todd[5] forecasted the satisfaction of information system users, and proved that the quality of the proposed system is an important factor, especially with the safety and speed of the whole system. Kriebel and Raviv[13] created and tested a productivity model for computer systems, including such performance measures as resource utilization and investment utilization. Thus, we hypothesize the relationship between system quality, intention to use, and user satisfaction.

[H3a] System quality of realistic PAIS has a positive relationship with Intention to use.

[H3b] System quality of realistic PAIS has a positive relationship with user satisfaction.

2.2.4 User Satisfaction and Intention to use

Delone and McLean[8] research shows that the content and quality of information system are very important to satisfaction and usage intention, moreover from the perspective of mobile content service and network. Many researchers have been studied[4,2,16] on determining factors on mobile content services for the valuation of cognitive users. Researches have proved that content quality has positive influence on perceived usefulness. Thus, we hypothesize the relationship between user satisfaction, intention to use, and net benefits.

[H4] User satisfaction of realistic PAIS has a positive relationship with intention to use.

[H5] User satisfaction of realistic PAIS has a positive relationship with net benefits.

[H6] Intention to use realistic PAIS has a positive relationship with net benefits.

3. Research Method

3.1 Measurement of Constructs

The measures used to operationalize the constructs included in the investigated models are mainly adopted from previous studies with modifications to fit the target contexts. The operational definition of each construct is given out in the Table 2. Table 2 also provides the questionnaire items used to measure each construct. Information quality defined reflection of aggressively use of the information content and performing the up-to-date and user needs based on Delone and Mclean[8]. Service quality refers to providing of extension, feedback, and customization on performing art information service based on Delone and Mclean[8]. System quality refers to the degree of reliability, security and recovery on performing art information service system based on Delone and Mclean[8], Cao et al.[3] and Harris and Goode[11]. Intention to use refers to behavioral usage intention of performing art information service for public services and specialized information service. User satisfaction refers to the degree of user satisfaction with performing art information services based on Delone and Mclean[8] and Cao et al[3]. Net benefits refers to the degree of user's net benefits by providing information services based on Delone and Mclean[3].

3.2 Data Collection

From potential users of a regional province of Korea, we collected 442 data. Through reviewing process, 68 responses were found to be incomplete, thus this study used 374 responses for the analysis. Measurement items of each construct were extracted from prior studies[8,20]. All measurement items were measured by five-point Likert-type scales with ranging from strongly disagree to strongly agree. Data of the questionnaire was analyzed by using SPSS and Smart PLS 3.0.

4. Data Analysis

4.1 Demographic Characteristics

The demographic characteristics of those 374 answers are shown in Table 1. From the table, we can see that the majority of the respondent are male 56% (210), female 43.3% (162). Age are 134 respondents from 30 to below 39, which accounts for 35.8% and 133 respondents from 40 to below 49, which accounts for 35.6%.

Table 1. Demographic characteristics

Item		Frequency	%
Gender	Male	210	56.1
	Female	162	43.3
	Missing value	2	0.5
	Total	374	100
Age	Below 19	2	0.6
	20 to below 29	36	9.6
	30 to below 39	134	35.8
	40 to below 49	133	35.6
	50 and above	69	18.4
	Total	**374**	**100**

4.2 Validity and Reliability

Confirmatory factor analysis in Table 2 presents the values of cross loading, composite reliability, standardized Cronbach alphas, and AVE explained by each construct. Table 2 shows the cross loading of most items are larger than the level of 0.7. Table 2 also shows Cronbach's α and Average Variance Extracted (AVE). A widely accepted

Table 2. Validity and reliability

Variable	Measurements Items	Cross Loading	Composite Reliability	Cronbach's Alpha	AVE
Information Quality	Aggressive utilization of performing art information contents	0.824	0.851	0.737	0.656
	Keeping up-to-date of performing art information contents	0.844			
	Reflection of user information needs in performing information contents	0.758			
Service Quality	Service diversification for performing art information services	0.776	0.844	0.722	0.643
	Appropriate feedback through service provider	0.817			
	Personalized customization for performing art information services	0.812			
System Quality	System recovery ability about systems errors	0.785	0.878	0.791	0.707
	System reliability for personal information protection	0.885			
	Information security management for information disclosure	0.850			
Intention to Use	User access of information service for public service	0.794	0.844	0.723	0.643
	Intention to use through future information service expansion	0.846			
	Intention to use through specialized information of performing art	0.765			
User Satisfaction	Satisfaction through customized performing art information service	0.858	0.895	0.823	0.739
	Satisfaction through rapid performing art information service	0.843			
	Satisfaction through reliability of performing art information service	0.877			
Net Benefits	To reduce the search time through rapid performing art information service	0.843	0.889	0.813	0.728
	To purchase tickets by providing performing art information service	0.854			
	To improve service transparency through customized information service	0.863			

Table 3. Discriminant validity

Variable	Mean	S.D	Information Quality	Service Quality	System Quality	Intention to Use	User Satisfaction	Net Benefits
Information Quality	3.905	0.601	0.810					
Service Quality	3.749	0.611	0.525	0.802				
System Quality	4.020	0.670	0.611	0.505	0.841			
Intention to Use	3.647	0.676	0.410	0.381	0.357	0.802		
User Satisfaction	3.674	0.743	0.365	0.370	0.370	0.365	0.860	
Net Benefits	3.564	0.711	0.339	0.320	0.350	0.350	0.680	0.853

* Correlation is significant at the 0.01 level, Diagonal show the square root of the AVE for each construct

level of adequacy for Cronbach's alpha has been at least 0.7, and from the table we can see that all of the Cronbach's α values are higher than the cutoff value of 0.7. At the same time, all of the AVE values are higher than the threshold of 0.5. Thus, the reliability and convergent validity are acceptable.

We tested discriminant validity by showing the cross-loadings of all items. All indicators, as shown in Table 2, loaded more highly on their own construct than on other constructs. Table 3 shows the discriminant validity. Fornell and Larcher[9] proved that constructs are different if the square root of the AVE of a certain construct is larger than the absolute value of the standardized correlation of that construct with any other construct in the analysis. According to Table 3, all the correlation indicators are less than the square root of AVE, assuring the discriminant validity.

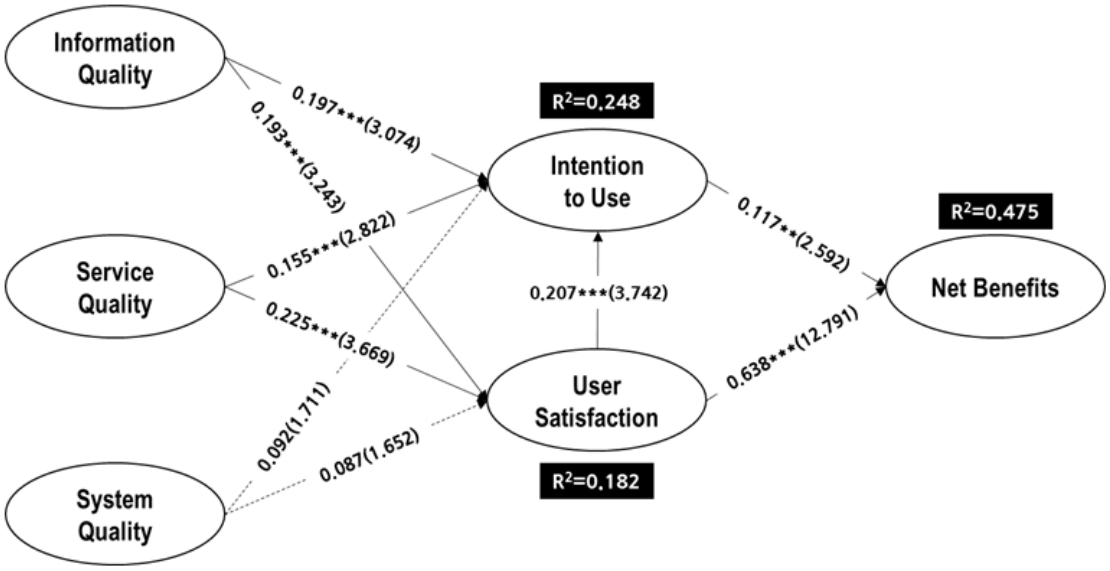

Figure 2. Hypothesis testing.

Table 4. Hypotheses testing result

Hypothesis		Path	t-value	p-value	Result
H1a	Information Quality→Intention to Use	0.197	3.074	0.001***	Accept
H1b	Information Quality→User Satisfaction	0.193	3.243	0.002***	Accept
H2a	Service Quality→Intention to Use	0.155	2.822	0.005***	Accept
H2b	Service Quality→User Satisfaction	0.225	3.669	0.000***	Accept
H3a	System Quality→Intention to Use	0.092	1.711	0.088	Reject
H3b	System Quality→User Satisfaction	0.087	1.652	0.099	Reject
H4	User Satisfaction→Intention to Use	0.207	3.742	0.000***	Accept
H5	User Satisfaction→Net Benefits	0.638	12.791	0.000***	Accept
H6	Intention to Use→ Net Benefits	0.117	2.592	0.010**	Accept

*p<0.1, ** p<0.05, *** p<0.01

4.3 Hypothesis Testing

Table 4 and Figure 2 show the results of hypotheses test. The hypotheses 1a, 1b, 2a, 2b and 4, 5, 6 are accepted. But hypotheses 3a and 3b are rejected. Information quality have significant positive influence on intention to use (H1a: 0.197***) and user satisfaction (H1b: 0.193***). Service quality has significant positive influence on intention to use (H2a: 0.155***) and user satisfaction (H2b: 0.225***). But, system quality does not significant influence on intention to use (H3a: 0.092) and user satisfaction (H3b: 0.087). Moreover, user satisfaction shows a positive influence on intention to use (H4: 0.207***) and net benefits (H5: 0.638***). Also, intention to use shows a positive influence on net benefits (H6: 0.117**).

5. Discussion and Conclusion

This study tried to validate the revised model of IS success model, with the application of realistic PAIS. The causal relationships among the variables that influence realistic PAIS success were empirically examined. The contribution of this study is to suggest the applicability of new IS service in realistic performing art study. This study tried to identify the relationship between the quality factor and intention to use, user satisfaction of the realistic Performing Art Information Service, and to identify the relevance of net benefits.

Implications as a result are as follows. First, information quality and service quality of Performing

Art Information Service influence intention to use and user satisfaction. The results indicated that information service will increase satisfaction in accordance with information quality and service quality provided through realistic Performing Art Information Service. Second, user satisfaction of realistic Performing Art Information Service was found to influence on the intention to use and net benefits. However, user satisfaction has higher effect on net benefits rather than effect on intention to use. The results indicated that information service can increase intention to use through user satisfaction of Performing Art Information Service. Third, the system quality did not influence on intention to use and user satisfaction. The result indicated that the system operation did not have important role on errors in the system and security problems of performing information service offering through Web or SNS.

Though we already have got some results from the study, there were still some limitations in this study. First, we need to study more explanation factors, such as other information service characteristics, which can influence perceived usefulness and perceived enjoyment for the further research. Second, this study is limited to data collection in order to understand general social phenomenon. For further research, we believe this research is a good starting to explain people's continuous usage intention of realistic performing art information service for more generalized studies.

6. Acknowledgment

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