The Effects of System Quality, Information Quality and Service Quality on User Satisfaction and the Implication to the Website Benefit

Case Study at Del Institute of Technology, Medan, Indonesia and Nanjing Xioazhuang University, China

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Abstract — **This study is a continuation of previous research by the author at different higher educational institutions. The objectives, method, instruments and research model are all the same. The total respondents are 375 which consist of 217 students from Del Institute of Technology, Medan, Indonesia and 158 students from Nanjing Xiaozhuang University, China. For the results, in both higher educational institutions, there are two hypotheses proven insignificant. Findings at Del Institute of Technology show that website benefit can be explained by its independents variables by 67.6% and Nanjing Xiaozhuang University by 88.5%. Meanwhile, user satisfaction and website benefit at Nanjing Xiaozhuang University bigger than those at Del Institute of Technology. Based on these results, it can be concluded that even though using the exact same research instruments, it's produced different outcome. One of the reasons was that every respondent had different priority in accessing the information provided by the institutions.**

Keywords-DeLone and McLean Information Systems Success Model; ICT; Internet; Path Analysis; Website.

I. INTRODUCTION

This research is a continuation of previous and similar research conducted at University of National Development "Veteran" Jakarta, Indonesia (Universitas Pembangunan Nasional "Veteran" Jakarta = UPNVJ) and University of Selangor (Universiti Selangor = UNISEL), Malaysia [1]. Using the same exact instruments, model and hypotheses, this research was also conducted at Del Institute of Technology, Medan, Indonesia and Nanjing Xiaozhuang University, China. So, the literature review, research model and hypotheses are all the same as in the previous research.

II. LITERATURE REVIEW

Reference [1]

III. RESEARCH MODEL AND HYPOTHESES

Reference [1]

IV. RESEARCH METHOD

The survey was conducted at Del Institute of Technology, Medan, Indonesia in November 2014 and at Nanjing Xiaozhuang University, China in March 2015. Two hundred and seventeen (217) students from Del Institute of Technology, Medan and one hundred and fifty eight (158) students from Nanjing Xiaozhuang University were also selected randomly. Those respondents are representative enough to represent the population of the students from two higher educational institutions.

The survey questions in the form of questionnaire, as the research instrument, using five-point Likert scales were used with the anchors "1 = strongly disagree" and "5 = strongly agree." Before distributed to the respondents, the instrument was tested using Pearson Product Moment formula to test its validation and using Alpha Cronbach to test its reliability. Using $\alpha = 0.05$ all items of the questionnaire were proven valid and reliable.

V. FINDING AND DATA ANALYSIS

The results are based on the questionnaire answered by students of the Del Institute of Technology and Nanjing Xiaozhuang University. Descriptive statistics, such as mean, median, mode, standard deviation, range, minimum and maximum for the data collected from Del Institute of Technology depicted in Table 5.1 and for the data collected from Nanjing Xiaozhuang University depicted in Table 5.10. Correlation for the independent variables, output resulted by AMOS version 21, illustrated in Table 5.2 for Del Institute of Technology and in Table 5.11 for Nanjing Xiaozhuang

University. Beta coefficient can be seen in Figure 2 and Table 5.3 for Del Institute of Technology and Figure 3 and Table 5.12 for Nanjing Xiaozhuang University.

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1 Descriptive Statistics.

Data obtained based on questionnaires answered by the students of the Del Institute of Technology. Descriptive statistics were analyzed using Microsoft Excel 2010, among others; include the mean, median, mode, standard deviation, range, minimum and maximum values for all the variables, shown in Table 5.1. Correlations between independent variables produced by AMOS version 21 is shown in Table 5.2. Correlation between System Quality (SysQ) and Information Quality (InfQ) is equal to 0.765, between Information Quality (InfQ) and Service Quality (SerQ) is equal to 0.683, and between System Quality (SysQ) and Service Quality (SerQ) is equal to 0.640. Whereas beta coefficient can be seen in Figure 2 and Table 5.3.

Table 5.1. *Descriptive Statistics*

	System Quality	Information Quality	Service Quality	User Satisfaction	Website Benefit
Mean	32.747	41.558	16.710	36.719	28.604
Std Error	0.396	0.457	0.194	0.418	0.361
Median	33	42	17	36	28
Mode	34	45	15	35	27
Std Deviation	5.837	6.733	2.862	6.155	5.313
Variance	34.070	45.331	8.188	37.888	28.231
Kurtosis	-0.140	-0.303	0.225	0.137	0.060
Skewness	-0.039	0.072	0.098	0.255	0.264
Range	32	35	17	35	29
Minimum	17	24	8	20	16
Maximum	49	59	25	55	45
Sum	7106	9018	3626	7968	6207
Count	217	217	217	217	217

Table 5.2. *Correlations: (Group number 1 - Default model)*

			Estimate
SysQ	<-->	InfQ	.765
InfQ	<-->	SerQ	.683
SysQ	<-->	SerQ	.640

Table 5.3. *Standardized Regression Weights: (Group number 1 - Default model)*

			Estimate
UseS	<---	InfQ	.422
UseS	<---	SysQ	.316
UseS	<---	SerQ	.221
WebB	<---	UseS	.561
WebB	<---	SysQ	-.053
WebB	<---	InfQ	.268
WebB	<---	SerQ	.092

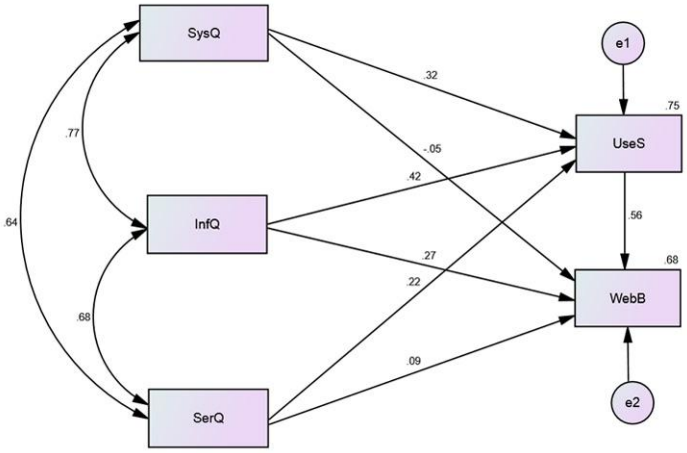

Figure 2. Standardized Estimates
Source: AMOS output

Notes:
SysQ = System Quality
InfQ = Information Quality
SerQ = Service Quality
UseS = User Satisfaction
WeB = Website Benefit

2 Hypothesis testing.

Hypothesis testing is conducted using the t-value with the level of significance of 0.05. The t-value in AMOS is denoted as Critical Ratio (CR) which will be compared to the value of t_{table} which is 1.96. So, as the basis of calculation is if the value of CR $\geq$ 1.96 or value the probability (P) $\leq$ 0.05 then H_0 is rejected, meaning that the research hypothesis H_1 is accepted (has significant effect). As a basis for calculation is the output resulted by AMOS as shown in Table 5.4 below.

Table 5.4. *Regression Weights: (Group number 1 - Default model)*

			Estimate	S.E.	C.R.	P	Label
UseS	<---	InfQ	.386	.053	7.301	***	par_4
UseS	<---	SysQ	.333	.058	5.745	***	par_5
UseS	<---	SerQ	.475	.104	4.561	***	par_6
WebB	<---	UseS	.484	.066	7.293	***	par_3
WebB	<---	SysQ	-.048	.061	-.789	.430	par_7
WebB	<---	InfQ	.212	.058	3.677	***	par_8
WebB	<---	SerQ	.171	.106	1.604	.109	par_9

Testing Hypothesis 1.

H_0 : System Quality (SysQ) has no significant effect on User Satisfaction (UseS)

H_1 : System Quality (SysQ) has significant effect on User Satisfaction (uses).

Decision : Because the value of CR = 5.745 is greater than 1.967 and t-value = 0.000 is less than 0.05 then H0 is rejected, meaning that the System Quality (SysQ) has significant effect on User Satisfaction (uses). Based on Table 5.3, Standardized Regression Weights, the magnitude of the effect is 0.316.

Testing Hypothesis 2

H_0 : System Quality (SysQ) has no significant effect on Website Benefit (WebB).

H_1 : System Quality (SysQ) has significant effect on Website Benefit (WebB).

Decision : Because the value of CR = -0.789 is less than in 1.967 and the t-value = 0.430 greater than 0.05 then H0 is accepted, meaning that the System Quality (SysQ) has no effect on the Website Benefit (WebB). Based on Table 5.3, Standardized Regression Weights, the magnitude of the effect is -0.053.

Testing Hypothesis 3

H_0 : Information Quality (InfQ) has no significant effect on User Satisfaction (UseS).

H_1 : Information Quality (InfQ) has significant effect on User Satisfaction (UseS).

Decision : Because the value of CR = 7.301 is greater than 1.967 and t-value = 0.00 is less than 0.05 then H0 is rejected, meaning that the Information Quality (InfQ) has significant effect on User Satisfaction (UseS). Based on Table 5.3, Standardized Regression Weights, the magnitude of the effect is 0.422.

Testing Hypothesis 4

H_0 : Information Quality (InfQ) has no significant effect on Website Benefit (WebB).

H_1 : Information Quality (InfQ) has significant effect on Website Benefit (WebB).

Decision : Because the value of CR = 2.638 is greater than 1.967 and t-value = 0.008 is less than 0.05 then H0 is rejected, meaning that the Information Quality (InfQ) has significant effect on Website Benefit (WebB). Based on Table 5.3, Standardized Regression Weights, the magnitude of the effect is 0.268.

Testing Hypothesis 5

H_0 : Service Quality (SerQ) has no significant effect on User Satisfaction (UseS).

H_1 : Service Quality (SerQ) has significant effect on User Satisfaction (UseS).

Decision : Because the value of CR = 4.561 is greater than 1.967 and t-value = 0.00 is less than 0.05 then H0 is rejected, meaning that the User Satisfaction (UseS) has significant effect on User Satisfaction (SerQ). Based on Table 5.3, Standardized Regression Weights, the magnitude of the effect is 0.221.

Testing Hypothesis 6

H_0 : Service Quality (SerQ) has no significant effect on Website Benefit (WebB).

H_1 : Service Quality (SerQ) has significant effect on Website Benefit (WebB).

Decision : Because the value of CR = 1.604 is less than 1.967 and t-value = 0.109 is greater than 0.05 then H0 is accepted, meaning that the Service Quality (SerQ) has no significant effect on Website Benefit (WebB). Based on Table 5.3, Standardized Regression Weights, the magnitude of the effect is 0.092.

Testing Hypothesis 7

H_0 : User Satisfaction (UseS) has no significant effect on Website Benefit (WebB).

H_1 : User Satisfaction (UseS) has significant effect on Website Benefit (WebB).

Decision : Because the value of CR = 7.293 301 is greater than 1.967 and t-value = 0.00 is less than 0.05 then H0 is rejected, meaning that the User Satisfaction (UseS) has significant effect on Website Benefit (WebB). Based on Table 5.3, Standardized Regression Weights, the magnitude of the effect is 0.561.

Table 5.5. Recapitulation of hypotheses testing.

No	Hypothesis	Decision H_0	Conclusion
1	System Quality has significant effect on User Satisfaction	H_0 is rejected	significant effect
2	System Quality has significant effect on Website Benefit.	H_0 is accepted	no significant effect
3	Information Quality has significant effect on User Satisfaction.	H_0 is rejected	significant effect
4	Information Quality has significant effect on Website Benefit.	H_0 is rejected	significant effect
5	Service Quality has significant effect on User Satisfaction	H_0 is rejected	significant effect
6	Service Quality has significant effect on Website Benefit.	H_0 is accepted	no significant effect
7	User Satisfaction has significant effect on Website Benefit	H_0 is rejected	significant effect

3 Direct Effects, Indirect Effects and Total Effects.

Path analysis is actually intended to find out how big the effect of one variable against another either directly or indirectly as well as the total effect. Interpretation of the results of this analysis is to investigate and determine how to improve the usefulness of Website Benefit. The results of direct effect, indirect effect and total effect produced by AMOS version 21 as in Table 5.6, Table 5.7 and Table 5.8.

Table 5.6. *Standardized Direct Effects: (Group number 1 - Default model)*

	SerQ	InfQ	SysQ	UseS
UseS	.221	.422	.316	.000
WebB	.092	.268	-.053	.561

Based on the results presented in Table 5.6, *Standardized Direct Effects* can be explained as follows:

a. Direct effect System Quality (SysQ) on User Satisfaction (UseS) is equal to 0.316.
b. Direct effect Information Quality (InfQ) on User Satisfaction (UseS) is equal to 0.422, dan
c. Direct effect Service Quality (SerQ) on User Satisfaction (UseS) is equal to 0.221.

It can be concluded that the Information Quality (InfQ) has the greatest direct effect, i.e. 0.422, when compared with the effect of the System Quality (SysQ) and Service Quality (SerQ) on User Satisfaction.

d. Direct effect System Quality (SysQ) on Website Benefit (WebB) is equal to - 0.053,
e. Direct effect Information Quality (InfQ) on Website Benefit (WebB) is equal to 0.268,
f. Direct effect Service Quality (SerQ) on Website Benefit (WebB) is equal to 0.092, and
g. Direct effect User Satisfaction (UseS) on Website Benefit (WebB) is equal to 0.561.

It can be concluded that the User Satisfaction (UseS) has the greatest direct effect, i.e. 0.561 in comparison with the effect of the System Quality (SysQ), Information Quality (InfQ) and Service Quality (SerQ) to Website Benefit (WebB).

Table 5.7. *Standardized Indirect Effects: (Group number 1 - Default model)*

	SerQ	InfQ	SysQ	UseS
UseS	.000	.000	.000	.000
WebB	.124	.237	.177	.000

Based on the results presented in Table 5.7, *Standardized Indirect Effects* can be explained as follows:

a. Indirect effect System Quality (SysQ) on Website Benefit (WebB) is equal to 0.177.
b. Indirect effect Information Quality (InfQ) on Website Benefit (WebB) is equal to 0.237, and
c. Indirect effect Service Quality (SerQ) on Website Benefit (WebB) is equal to 0.124.

It can be concluded that the Information Quality (InfQ) has the greatest indirect effect, i.e. 0.237 in comparison with the indirect effect of the System Quality (SysQ) and Service Quality (SerQ) to the Website Benefit (WebB).

Table 5.8. *Standardized Total Effects: (Group number 1 - Default model)*

	SerQ	InfQ	SysQ	UseS
UseS	.221	.422	.316	.000
WebB	.216	.505	.124	.561

Based on the results presented in Table 5.8, *Standardized Total Effects* can be explained as follows:

a. Total effect System Quality (SysQ) on User Satisfaction (UseS) is equal to 0.316
b. Total effect Information Quality (InfQ) on User Satisfaction (UseS) is equal to 0.422, and
c. Total effect Service Quality (SerQ) on User Satisfaction (UseS) is equal to 0.221

It can be concluded that the Information Quality (InfQ) has the greatest total effect, i.e. 0.422, when compared with the total effect of the System Quality (SysQ), and Service Quality (SerQ) on User Satisfaction (UseS).

d. Total effect System Quality (SysQ) on Website Benefit (WebB) is equal to 0.124,
e. Total effect Information Quality (InfQ) on Website Benefit (WebB) is equal to 0.505,
f. Total effect Service Quality (SerQ) on Website Benefit (WebB) is equal to 0.216 and

g. Total effect User Satisfaction (UseS) on Website Benefit (WebB) is equal to 0.561

It can be concluded that the User Satisfaction (UseS) has the greatest direct effect, i.e. 0.561 in comparison with the effect of the System Quality (SysQ), Information Quality (InfQ) and Service Quality (SerQ) to Website Benefit (WebB).

4 Coefficient of determination

The magnitude of the contribution can be calculated from the output in Table 5.9 below.

Table 5.9. *Squared Multiple Correlations: (Group number 1 - Default model)*

	Estimate
UseS	.747
WebB	.676

Based on the results presented in Table 5.9 *Squared Multiple Correlations* can be explained as follows:

a. Estimated value of Squared Multiple Correlations show that the variable System Quality (SysQ), Information Quality (InfQ) and Service Quality (SerQ) has 74.7% in explaining variables User Satisfaction (UseS).
b. Estimated value of Squared Multiple Correlations show that the variable System Quality (SysQ), Information Quality (InfQ), Service Quality (SerQ) and User Satisfaction (UseS) has 67.6% in explaining variable Website Benefit (WebB).

5 Conclusion

Based on data finding:

a. User Satisfaction (UseS) is effected by the System Quality (SysQ), Information Quality (InfQ) and Service Quality (SerQ) amounted to 74.7% and 25.3% came from other variables not examined.
b. Website Benefit (WebB) is effected by the System Quality (SysQ), Information Quality (InfQ Service Quality (SerQ) and User Satisfaction (UseS) amounted to 67.6% and 32.4% came from other variables not examined.
c. System Quality (SysQ) has no significant effect on Website Benefit (WebB) and Service Quality (SerQ) has no significant effect on Website Benefit (WebB).
d. In this study, there are two hypotheses are not proved influential, namely:
    1) Hypothesis 2: The effect of System Quality (SysQ) to Website Benefit (WebB) and
    2) Hypothesis 6: The effect of Service Quality (SerQ) to Website Benefit (WebB).

Based on these findings it can be concluded that the quality and services provided has no impact on the benefits of using website in Del Institute of Technology. The quality of information is a top priority in obtaining information.

B. Nanjing Xiaozhuang University

1 Descriptive Statistics.

Data obtained based on questionnaires answered by the students of the Nanjing Xiaozhuang University. Descriptive statistics were analyzed using Microsoft Excel 2010, among others; include the mean, median, mode, standard deviation, range, minimum and maximum values for all the variables, shown in Table 5.10. Correlations between independent variables produced by AMOS version 21 is shown in Table 5.11. Correlation between System Quality (SysQ) and Information Quality (InfQ) is equal to 0.858, between Information Quality (InfQ) and Service Quality (SerQ) is equal to 0.887, and between System Quality (SysQ) and Service Quality (SerQ) is equal to 0.824. Whereas beta coefficient can be seen in Figure 3 and table 5.12.

Table 5.10. *Descriptive Statistics*

	System Quality	Information Quality	Service Quality	User Satisfaction	Website Benefit
Mean	36.044	44.747	18.557	41.101	33.278
Std Error	0.732	0.811	0.359	0.706	0.633
Median	35	44	18	40	32
Mode	50	60	25	55	45
Std Deviation	9.207	10.197	4.514	8.871	7.955
Variance	84.769	103.986	20.376	78.690	63.285
Kurtosis	-0.237	-0.376	-0.764	-1.059	-0.573
Skewness	-0.174	-0.093	-0.108	0.150	-0.136
Range	40	48	18	33	36
Minimum	10	12	7	22	9
Maximum	50	60	25	55	45
Sum	5695	7070	2932	6494	5258
Count	158	158	158	158	158

Table 5.11. *Correlations: (Group number 1 - Default model)*

			Estimate
SysQ	<-->	InfQ	.858
InfQ	<-->	SerQ	.887
SysQ	<-->	SerQ	.824

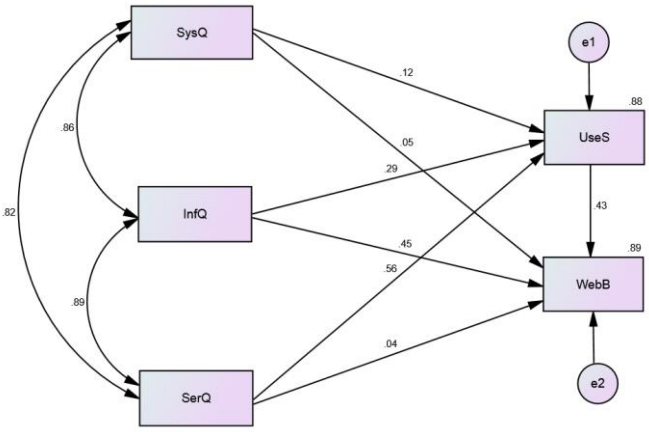

Figure 3. Standardized Estimates
Source: AMOS output

Notes:
SysQ = System Quality
InfQ = Information Quality
SerQ = Service Quality
UseS = User Satisfaction
WeB = Website Benefit

Table 5.12. *Standardized Regression Weights: (Group number 1 - Default model)*

			Estimate
UseS	<---	InfQ	.291
UseS	<---	SysQ	.124
UseS	<---	SerQ	.563
WebB	<---	UseS	.432
WebB	<---	SysQ	.053
WebB	<---	InfQ	.446
WebB	<---	SerQ	.042

2 Hypothesis Testing.

Hypothesis testing is conducted using the t-value with the level of significance of 0.05. The t-value in AMOS is denoted as Critical Ratio (CR) which will be compared to the value of t_{table} which is 1.96. So, as the basis of calculation is if the value of CR $\geq$ 1.96 or value the probability (P) $\leq$ 0.05 then H_0 is rejected, meaning that the research hypothesis H_1 is accepted (has significant effect). As a basis for calculation is the output resulted by AMOS as shown in Table 5:13 below.

Table 5.13. *Regression Weights: (Group number 1 - Default model)*

			Estimate	S.E.	C.R.	P	Label
UseS	<---	InfQ	.253	.058	4.327	***	par_4
UseS	<---	SysQ	.120	.053	2.268	.023	par_5
UseS	<---	SerQ	1.107	.120	9.233	***	par_6
WebB	<---	UseS	.387	.071	5.430	***	par_3
WebB	<---	SysQ	.046	.048	.957	.338	par_7
WebB	<---	InfQ	.348	.055	6.285	***	par_8
WebB	<---	SerQ	.075	.133	.561	.574	par_9

Testing Hypothesis 1.

H_0 : System Quality (SysQ) has no significant effect on User Satisfaction (UseS)

H_1 : System Quality (SysQ) has significant effect on User Satisfaction (UseS).

Decision : Because the value of CR = 2.268 is greater than 1.967 and t-value = 0.023 is less than 0.05, then H0 is rejected, meaning that the System Quality (SysQ) has significant effect on User Satisfaction (UseS). Based on Table 5.12, Standardized Regression Weights, the magnitude of the effect is 0.124.

Testing Hypothesis 2

H_0 : System Quality (SysQ) has no significant effect on Website Benefit (WebB).

H_1 : System Quality (SysQ) has significant effect on Website Benefit (WebB).

Decision : Because the value of CR = 0.957 is less than 1.967 and t-value = 0.338 is greater than 0.05, then H0 is accepted, meaning that the System Quality (SysQ) has no significant effect on Website Benefit (WebB). Based on Table 5.12, Standardized Regression Weights, the magnitude of the effect is 0.053.

Testing Hypothesis 3

H_0 : Information Quality (InfQ) has no significant effect on User Satisfaction (UseS).

H_1 : Information Quality (InfQ) has significant effect on User Satisfaction (UseS).

Decision : Because the value of CR = 4.327 is greater than 1.967 and t-value = 0.00 is less than 0.05, then H0 is rejected, meaning that the Information Quality (InfQ) has significant effect on User Satisfaction (UseS). Based on Table 5.12, Standardized Regression Weights, the magnitude of the effect is 0.291.

Testing Hypothesis 4

H_0 : Information Quality (InfQ) has no significant effect on Website Benefit (WebB).

H_1 : Information Quality (InfQ) has significant effect on Website Benefit (WebB).

Decision : Because the value of CR = 6.285 is greater than 1.967 and t-value = 0.008 is less than 0.05, then H0 is rejected, meaning that the Information Quality (InfQ) has significant effect on Website Benefit (WebB). Based on Table 5.12, Standardized Regression Weights, the magnitude of the effect is 0.446.

Testing Hypothesis 5

H_0 : Service Quality (SerQ) has no significant effect on User Satisfaction (UseS).

H_1 : Service Quality (SerQ) has significant effect on User Satisfaction (UseS).

Decision : Because the value of CR = 9.233 is greater than 1.967 and t-value = 0.00 is less than 0.05, then H0 is rejected, meaning that the Service Quality (SerQ) has significant effect on User Satisfaction (UseS). Based on Table 5.12, Standardized Regression Weights, the magnitude of the effect is 0.563.

Testing Hypothesis 6

H_0 : Service Quality (SerQ) has no significant effect on Website Benefit (WebB).

H_1 : Service Quality (SerQ) has significant effect on Website Benefit (WebB).

Decision : Because the value of CR = 0.561 less than 1.967 and t-value = 0.574 is greater than 0.05, then H0 is accepted, meaning that the Service Quality (SerQ) has no significant effect on Website Benefit (WebB). Based on Table 5.12, Standardized Regression Weights, the magnitude of the effect is 0.042.

Testing Hypothesis 7

H_0 : User Satisfaction (UseS) has no significant effect on Website Benefit (WebB).

H_1 : User Satisfaction (UseS) has significant effect on Website Benefit (WebB).

Decision : Because the value of CR = 5.430 is greater than 1.967 and t-value = 0.00 is less than 0.05, then H0 is rejected, meaning that User Satisfaction (UseS) has significant effect on Website Benefit (WebB). Based on Table 5.12, Standardized Regression Weights, the magnitude of the effect is 0.432.

Table 5.14. Recapitulation of hypotheses testing.

No	Hypothesis	Decision H_0	Conclusion
1	System Quality has significant effect on User Satisfaction	H_0 is rejected	significant effect
2	System Quality has significant effect on Website Benefit.	H_0 is accepted	no significant effect
3	Information Quality has significant effect on User Satisfaction.	H_0 is rejected	significant effect
4	Information Quality has significant effect on Website Benefit.	H_0 is rejected	significant effect
5	Service Quality has significant effect on User Satisfaction	H_0 is rejected	significant effect
6	Service Quality has significant effect on Website Benefit.	H_0 is accepted	no significant effect
7	User Satisfaction has significant effect on Website Benefit	H_0 is rejected	significant effect

3 Direct Effects, Indirect Effects and Total Effects.

Path analysis is actually intended to find out how big the effect of one variable against another either directly or indirectly as well as the total effect. Interpretation of the results of this analysis is to investigate and determine how to improve the usefulness of Website Benefit. The results of direct effect, indirect effect and total effect produced by AMOS version 21 as in Table 5.15, Table 5.16 and Table 5.17.

Table 5.15. *Standardized Direct Effects: (Group number 1 - Default model)*

	SerQ	InfQ	SysQ	UseS
UseS	.563	.291	.124	.000
WebB	.042	.446	.053	.432

Based on the results presented in Table 5.15, *Standardized Direct Effects* can be explained as follows:

a. Direct effect System Quality (SysQ) on User Satisfaction (UseS) is equal to 0.124,
b. Direct effect Information Quality (InfQ) on User Satisfaction (UseS) is equal to 0.291, and
c. Direct effect Service Quality (SerQ) on User Satisfaction (UseS) is equal to 0.563.

It can be concluded that the Service Quality (SerQ) has the greatest direct effect, i.e. 0.563, when compared with the effect of the System Quality (SysQ), and Information Quality (InfQ on User Satisfaction.

d. Direct effect System Quality (SysQ) on Website Benefit (WebB) is equal to 0.053,
e. Direct effect Information Quality (InfQ) on Website Benefit (WebB) is equal to 0.446,

f. Direct effect Service Quality (SerQ) on Website Benefit (WebB) is equal to 0.042, dan
g. Direct effect User Satisfaction (UseS) on Website Benefit (WebB) is equal to 0.432.

It can be concluded that the Information Quality (InfQ) has the greatest direct effect, i.e. 0.446, when compared with the effect of the System Quality (SysQ), Service Quality (SerQ) and User Satisfaction (UseS) on Website Benefit (WebB).

Table 5.16. *Standardized Indirect Effects: (Group number 1 - Default model)*

	SerQ	InfQ	SysQ	UseS
UseS	.000	.000	.000	.000
WebB	.243	.126	.054	.000

Based on the results presented in Table 5.16, *Standardized Indirect Effects* can be explained as follows:

a. Indirect effect System Quality (SysQ) on Website Benefit (WebB) is equal to 0.054
b. Indirect effect Information Quality (InfQ) on Website Benefit (WebB) is equal to 0.126, and
c. Indirect effect Service Quality (SerQ) on Website Benefit (WebB) is equal to 0.243.

It can be concluded that the Service Quality (SerQ) has the greatest indirect effect, i.e. 0.243 in comparison with the indirect effect of the System Quality (SysQ) and Information Quality (InfQ) to the Website Benefit (WebB).

Table 5.17. *Standardized Total Effects: (Group number 1 - Default model)*

	SerQ	InfQ	SysQ	UseS
UseS	.563	.291	.124	.000
WebB	.286	.571	.107	.432

Based on the results presented in Table 5.17, *Standardized Total Effects* can be explained as follows:

a. Total effect System Quality (SysQ) on User Satisfaction (UseS) is equal to 0.124,
b. Total effect Information Quality (InfQ) on User Satisfaction (UseS) is equal to 0.291, and
c. Total effect Service Quality (SerQ) on User Satisfaction (UseS) is equal to 0.563.

It can be concluded that the Service Quality (SerQ) has the greatest total effect, i.e. 0.563 when compared with the total effect of the System Quality (SysQ), and Information Quality (InfQ) on User Satisfaction (UseS).

d. Total effect System Quality (SysQ) on Website Benefit (WebB) is equal to 0.107,
e. Total effect Information Quality (InfQ) on Website Benefit (WebB) is equal to 0.571,
f. Total effect Service Quality (SerQ) on Website Benefit (WebB) is equal to 0.286 and
g. Total effect User Satisfaction (UseS) on Website Benefit (WebB) is equal to 0.432.

It can be concluded that the Information Quality (InfQ) has the greatest direct effect, i.e. 0.571 in comparison with the effect of the System Quality (SysQ), Service Quality (SerQ) and User Satisfaction (UseS) to the Website Benefit (WebB).

4 Coefficient of determination

The magnitude of the contribution can be calculated from the output in Table 10.16 below.

Table 5.18. *Squared Multiple Correlations: (Group number 1 - Default model)*

	Estimate
UseS	.885
WebB	.885

Based on the results presented in Table 5.18 *Squared Multiple Correlations*, can be explained as follows:

a. Estimated value of Squared Multiple Correlations show that the variable System Quality (SysQ), Information Quality (InfQ) and Service Quality (SerQ) has 88.5% in explaining variables User Satisfaction (UseS).
b. Estimated value of Squared Multiple Correlations show that the variable System Quality (SysQ), Information Quality (InfQ), Service Quality (SerQ) and User Satisfaction (UseS) has 88.5% in explaining variable Website Benefit (WebB).

5 Conclusion

Based on data finding:

a. User Satisfaction (UseS) is effected by the System Quality (SysQ), Information Quality (InfQ) and Service Quality (SerQ) amounted to 88.5% and 11.5% came from other variables not examined.
b. Website Benefit (WebB) is effected by the System Quality (SysQ), Information Quality (InfQ Service Quality (SerQ) and User Satisfaction (UseS) amounted to 88.5% and 11.5% came from other variables not examined.
c. System Quality (SysQ) has no significant effect on Website Benefit (WebB) and Service Quality (SerQ) has no significant effect on Website Benefit (WebB).
d. In this study, there are two hypotheses are not proved influential, namely:
    1) Hypothesis 2: The effect of System Quality (SysQ) to Website Benefit (WebB) and
    2) Hypothesis 6: The effect of Service Quality (SerQ) to Website Benefit (WebB).

Based on these findings it can be concluded that the quality and services provided has no impact on the benefits of using website in Nanjing Xiaozhuang University. The quality of information is a top priority in obtaining information.

VI. DISCUSSION

The results show that there are some similarities and differences between of them in the two universities. Based on the findings obtained from Del Institute of Technology and Nanjing Xiaozhuang University can be explained as follows:

1 Similarities:

In both universities, there are two hypotheses proven insignificant, i.e.

a. Hypothesis 2. System Quality has significant effect on Website Benefit.

b. Hypothesis 6. Service Quality has significant effect on Website Benefit.

2 Differences:

a. User Satisfaction

In Del Institute of Technology, User Satisfaction is influenced by Systems Quality, Information Quality and Service Quality by 74.7% and 25.3% comes from other variables not examined. The greatest total influence to the User Satisfaction is coming from Information Quality, i.e. 0.422.

Meanwhile in Nanjing Xiaozhuang University, User Satisfaction is influenced by Systems Quality, Information Quality and Service Quality by 88.5% and 11.5% comes from other variables not examined. The greatest total influence to the User Satisfaction is coming from Information Quality, i.e. 0.563.

b. Website Benefit

In Del Institute of Technology, Website Benefit influenced by Systems Quality, Information Quality, Service Quality and User Satisfaction by 67.6% and 32.4% comes from other variables not examined. The greatest total influence to the Website Benefit is coming from User Satisfaction, i.e. 0.561.

Meanwhile in Meanwhile in Nanjing Xiaozhuang University, Website Benefit influenced by Systems Quality, Information Quality, Service Quality and User Satisfaction by 88.5% and 11.5% comes from other variables not examined. The greatest total influence to the Website Benefit is coming from Information Quality, i.e. 0.571.

VII. CONCLUSIONS

These findings have proven that even though using similar instruments produce different output. There are several reasons could be stated, such as: priority, perspective, and personal background that differentiate the answers provided by the respondents. So, the same question will be answered by different scale. Therefore, by having different answers produce different output.

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