

CHAPTER V

EVALUATION OF THE AVAILABILITY FACTOR EFFECT ON E-SERVICES ADOPTION IN HIGHER EDUCATION IN LIBYAN UNIVERSITIES

5.1 Introduction

This chapter discusses and analyses the survey findings with regard to e-services adoption from a student's awareness in light of the availability of e-services, internet access and other facilities like computers and technicians. There are telecommunication infrastructure(availability) and access challenges. Internet access is not available in many places in Libya and that may be due to unavailability of technical infrastructure in Libya. The current availability is access through dialup connection in most of the cities which is slow. It cost about 50 Libyan Dinar (LD) monthly and ADSL is limited in some particular places in Tripoli. There are problems of resistance to usage of the Internet due to limited bandwidth and high cost of using new technologies. In Libya, compared with other countries, access costs are high, except for those who have Internet access at work or some other organizations. This makes it too expensive for the Internet service providers to buy large amount of bandwidth, which leads to a big lag time. This generally, has a negative effect on the efficient usability of the network within Libya. There are further challenges with landlines availability in Libya. Currently (2005) there are ten landlines to every 100 people in Libya (Woodward, 2005). This lack in the number of telephone lines acts as one of the main barriers to Internet use. It is difficult to compete in the information age without reliable telecommunication tools. The digital divide (DD) operates at an international level.

5.2 Methodology

This chapter present the survey finding of availability as another critical factor that effect e-services adoption in higher education in Libyan universities and consequently contribute in success implementation of e-services in higher education in Libya. , the data were collected from three different universities in different cities in Libya: Tripoli university, Benghazi university and Omar AL-Mukhtar university. The sample size was 381students from Tripoli university, 379 students from Benghazi university and

377 students from Omar AL-Mukhtar university. The samples were chosen randomly both males and females, different education levels and different specializations of students in each university. The questioner was distributed in three universities (using paper survey) and collected from the first of December until the last of March. The data was analyzed by SPSS and the following statistical methods were achieved:

1-Frequency Distribution 2- Reliability Test 3- Basic Chi Square (χ) 4- Correlations Methods 5-Analysis of Variance (ANOVA) 6- Regression Analysis.

5.3 Results

5.3.1 Adoption of e-services in higher education in Tripoli university depend on demographic differences

Demographic analysis was conducted between gender, age, educational level, professional background and e-services adoption to test the relationship between the study factors and illustrate the adopters and non-adopters in Tripoli university.

5.3.1.1 Gender and e-services adoption

The Pearson's chi-square test validated that there was no significant difference between the adopters and non –adopters in both genders ($\chi^2(1, N = 381) = 1.499, p < .169$) (Table 55).

TABLE 55: Sex as a Determinant of E-services Adopters and Non Adopters

Sex	Adoption of e-services		Total
	Adopter	Non adopter	
Males	179	7	186
Females	185	10	195
Total	364	17	381
X² Test (N=377)			
Gender x e-services Adoption			
	Value	DF	P (2-sided)
Pearson χ	1.499	1	0.169

No significant difference between the gender of the adopters and non-adopters ($p < .169$)

5.3.1.2 Age and e-services adoption

Studying the age and e-services adoption revealed that there are a significant differences adopters ($\chi^2 (2, N=381) = 14.584^a, p < .001$) between different ages of e-services adopters and non-adopters (Table 56).

TABLE 56: Age as a Determinant of E-services Adopters and Non Adopters

Age	Adoption of e-services		Total
	Adopter	Non adopter	
19-29 Y	187	10	197
30-40 Y	174	3	177
>40	6	1	7
Total	367	14	381
X ² Test (N=377)			
Age x e-services Adoption			
	Value	DF	P (2-sided)
Pearson χ	14.584	2	.001

A significant difference between the ages of the adopters and non-adopters ($p < .001$).

5.3.1.3 Education and adoption of e-services

Based on the Pearson’s chi-square ($\chi^2 (4, N = 384) = 90.621, p < .000$), educational level displayed significant differences between each educational background (Table 57).

TABLE 57: Education as a Determinant of E-services Adopters and Non Adopters

Education	Adoption of e-services		Total
	Adopter	Non adopter	
Post DR	10	2	12
Doctorate	120	1	121
Master	126	2	128
Bachelor	65	5	70
High diploma	41	9	50
Total	362	19	381
X ² Test (N=377)			
Education x e-services Adoption			
	Value	DF	P (2-sided)
Pearson χ	90.621	4	.000

A significant difference between the education levels of the adopters and non-adopters ($p < .000$)

5.3.1.4 Professional background and adoption of E-services

Pearson's chi-square showed that there were significant differences between adopter and non-adopter of e-services depending on the Professional background ($\chi^2 (3, N = 381) = .810$ $p < .847$) (Table 58).

TABLE 58: Specialization as a determinant of e-services Adopters and Non Adopters

Adoption of e-services			Total
Specialization	Adopter	Non adopter	
computer and engineering	91	1	92
Economic and mathematics	97	3	100
medical and biology	88	6	94
literary	89	6	95
Total	365	16	381
X ² Test (N=377)			
Specialization x e-services Adoption			
	Value	DF	P(2-sided)
Pearson χ	.810	3	.847

significant difference between the Specializations of the adopters and non-adopters
($p < .847$)

5.3.2 Adoption of e-services in higher education in Tripoli university depend on availability level

Many statistical methods were used to determine the relation between the availability as independent factor and adoption of e-services as dependent factor. This chapter aims to evaluate availability as critical factor affecting successfully adoption and implementation of e-services in higher education in Tripoli universities.

5.3.2.1 Reliability test

The reliability of the questionnaire answers was measured by Cronbach’s coefficient alpha values. Availability of e-services presented high reliability (Cronbach’s alpha of (0.895) followed by Trust in electronic services(0.822) and Risk predict and privacy (0.757) (Table 59).

TABLE 59: Reliability of Measurements

Constructs	Cronbach's Alpha (a)	Type	Standards of Reliability
Availability of e-services	0.895	High Reliability	0.70-0.90
Trust electronic services	0.822	High reliability	0.70-0.90
Risk predict and privacy	0.757	High reliability	0.70-0.90

5.3.2.2 Binary correlation test

A binary correlation test was conducted to examine any association between availability, trust in ministry of higher education, technology and e-services and risk predict and issue of privacy and e-services adoption. The findings of availability and related factors suggest that there was a significant positive correlation between the availability of e-services and or the trust in ministry of higher education, technology and e-services education level and the e-services adoption, whereas there was no significant correlation between the risk predict and issue of privacy and the e-services adoption (Table 60).

TABLE 60: Correlations Availability, Related Factors and e-services Adoption

Factor	Adoption of e-services	Significant of correlation
The availability e-services	.971**	High correlation
	.000	High significant
	381	N
Trust e-services	.202**	High correlation
	.000	High significant
	381	N
Risk predict and privacy	.080	No correlation
	.120	No significant
	381	N

** Correlation is significant at the 0.001 level (2-tailed).

5.3.2.3 Regression analysis with availability and other related factors

Results of regression analysis with availability and other related factors regarding to the size of (β) revealed that the availability presented the highest significant (.93) and then trust in ministry of higher education, technology and in services (.52) while risk predict and issue of privacy has no significant effect on e-services adoption (Table 63). A significant model emerged ($F(3, 381) = 246.747, p < 0.000$) (Table 62) with the R square being .857 (Table 61).

TABLE 61: Regression Analysis: Model Summary

Model	R	R Square	Adjusted R Square	Significant of correlation
1	.926**	.857	.855	High correlation

** Correlation is significant at the 0.001 level (2-tailed).

TABLE 62: Regression Analysis (ANOVA)

Model	Sum of Squares	Mean Square	F	Sig.	Regression ANOVA
Regression	10.881	2.182	246.747	.000	High significant
Residual	5.224	.014			
Total	16.105				

High significant $P < 0.000$

TABLE 63: Regression analysis: Coefficients

Factor	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Significant of regression
	B	Beta			
The availability	.92	.93	9.431	.000	High significant
Trust	.171	.52	4.091	.000	
Risk, privacy	.009	.082	.224	.672	

High significant $P < 0.000$, No significant $P < 0.672$

5.3.2.4 Analysis of variance (ANOVA)

The mean differences of questions' answers of students were evaluated by measure the significant differences between their answers. A significant differences (($F(8, 381) = 1.20143, p < 0.000$)) and (($F(8, 381) = 384.240, p < 0.000$)) between means of answer question for Intention and motivation to use and adoption of e-services in the future were detected (Table 64). These significant differences explain the impact the availability as independent factor on the intention and motivation to use and adoption of e-services as depended factors. Table 16 Appendix A present the differences between mean of answers of students.

TABLE 64: INOVA

Factor		Sum Squares	Mean Square	F	Sig.	Regression ANOVA
Intention	Between Groups	1.076	.135	1.201	.000	High significant
	Within Groups	.042	.000			
	Total	1.118				
Adoption	Between Groups	12.854	1.607	384.2	.000	High significant
	Within Groups	1.556	.004			
	Total	14.409				

High significant $P < 0.000$

5.3.3 Adoption of e-services in higher education in Benghazi university depend on demographic differences

Demographic analysis was conducted between gender, age, educational level, professional background and e-services adoption to test the relationship between the study factors and illustrate the adopters and non-adopters in Benghazi university.

5.3.3.1 Gender and e-services adoption

The results of pearson's chi-square suggested that there was no significant difference between the adopters and non –adopters in both genders (χ^2 (1, $N = 379$) =1.549, $p < .163$) (Table 65).

TABLE 65: Sex as a Determinant of E-services Adopters and Non Adopters

Sex	Adoption of e-services		Total
	Adopter	Non adopter	
Males	183	3	186
Females	185	8	193
Total	368	11	379
χ^2 Test (N=379)			
Gender x e-services Adoption			
	Value	DF	P (2-sided)
Pearson χ	1.549	1	.163

No significant difference between the gender of the adopters and non-adopters ($p < .163$)

5.3.3.2 Age and e-services adoption

Studying the age and e-services adoption confirmed that there were a significant differences (χ^2 (2, $N = 379$) =15.669, $p < .001$) between different ages of e-services adopters and non-adopters (Table 66).This result are similar to Tripoli university's result.

TABLE 66: Age as a Determinant of E-services Adopters and No Adopters

Age	Adoption of e-services		Total
	Adopter	Non adopter	
19-29 Y	189	10	199
19-29 Y	167	1	168
>40	10	2	12
Total	366	13	379
X ² Test (N=377)			
Age x e-services Adoption			
	Value	DF	P (2-sided)
Pearson χ	15.669	2	.001

A significant difference between the ages of the adopters and non-adopters ($p < .001$).

5.3.3.3 Education and adoption of e-services

According to the Pearson's chi-square ($\chi^2 (4, N = 379) = 90.083, p < .000$), educational level showed a significant differences between each educational background (Table 67). This result was presented by participants from Tripoli university as well.

TABLE 67: Education as a Determinant of E-services Adopters and Non Adopters

Education	Adoption of e-services		Total
	Adopter	Non adopter	
Post DR	7	2	9
Doctorate	118	0	118
Master	122	1	123
Bachelor	71	2	73
High diploma	44	12	56
Total	362	17	379
X ² Test (N=377)			
Education x e-services Adoption			
	Value	DF	P (2-sided)
Pearson χ	90.083	4	.000

A significant difference between the education levels of the adopters and non-adopters ($p < .000$)

5.3.3.4 Professional background and adoption of e-services

Study of Pearson's chi-square mentioned that there were significant differences between adopter and non- adopter of e-services depending on the Professional background ($\chi^2 (3,N=381) = .810 p <.847$) (Table 68).

TABLE 68: Specialization as a determinant of e-services Adopters and Non Adopters

Specialization	Adoption of e-services		Total
	Adopter	Non adopter	
Computer and engineering	90	4	94
Economic and mathematics	95	3	98
Medical and biology	87	4	91
Literary	90	6	96
Total	362	17	379
X² Test (N=377)			
Specialization x e-services Adoption			
	Value	DF	P (2-sided)
Pearson χ	.773	3	.856

No significant difference between the Specializations of the adopters and non-adopters ($p < .856$)

5.3.4 Adoption of e-services in higher education in Benghazi university depend on availability impact

Many statistical methods were used to determine the relation between the availability as independent factor and adoption of e-services as dependent factor. This chapter aims to evaluate availability as critical factor affecting successfully adoption and implementation of e-services in higher education in Benghazi universities.

5.3.4.1 Reliability test

Measurements of reliability by Cronbach’s coefficient alpha values for each variable were very high. Availability of e-services presented highest reliability (Cronbach’s alpha of (0.879) followed by Trust in electronic services(0.810) and Risk predict and privacy (0.738) (Table 69).

TABLE 69: Reliability of Measurements

Factor	Cronbach's Alpha (a)	Type	Standards of Reliability
Availability of e-services	0.879	High Reliability	0.70-0.90
Trust electronic services	0.810	High reliability	0.70-0.90
Risk predict and privacy	0.738	High reliability	0.70-0.90

5.3.4.2 Binary correlation test

As mentioned before, binary correlation test was achieved to evaluate any relation between availability, trust in ministry of higher education, technology and e-services and risk predict and issue of privacy and e-services adoption. The results of availability and related factors revealed that there was a significant positive correlation between the availability of e-services and or the trust in ministry of higher education, technology and e-services education level and the e-services adoption, whereas there was no significant correlation between the risk predict and issue of privacy and the e-services adoption (Table 70).

TABLE 70: Correlations Availability, Related Factors and E-services Adoption

Factor	Adoption of e-services	Significant of correlation
The availability of e-services	.908** .000 379	High correlation High significant N
Trust in e-services	.143** .000 379	High correlation High significant N
Risk predict and issue of privacy	.064 .128 379	No correlation No significant N

** Correlation is significant at the 0.001 level (2-tailed)

5.3.4.3 Regression analysis with availability and other related factors

Regression analysis was conducted to evaluate impact of availability and other related factors on e-services adoption in higher education in Libya. The results showed that, there was a significant model ($F(3, 379) = 245.999, p < 0.000$) (Table 72) with the R square being .820 (Table 71). Moreover, significant impact for availability and trust in ministry of higher education, technology and in e-services on e-services adoption were detected. On the other hand, risk predict and issue of privacy don't present any significant effect (Table73).

TABLE 71: Regression Analysis: Model Summary

Model	R	R Square	Adjusted R Square	Significant of correlation
1	.906**	.820	.820	High correlation

** Correlation is significant at the 0.001 level (2-tailed)

TABLE 72: Regression Analysis (ANOVA)

Model	Sum of Squares	Mean Square	F	Sig.	Regression ANOVA
Regression	7.999	3.255			High significant
Residual	5.721	.014	245.999	.000	
Total	13.71				

TABLE 73: Regression Analysis: Coefficients

Model	Unstandardiz	Standardize	T	Sig.	Significant Regression
	B	Beta			
The availability Trust in e-services Risk predict of privacy	.140		2.961	.000	High significant
	.952	.92	8.234	.000	
	.155	.35	5.062	.000	
	.005	.077	.228	.542	

High significant P< 0.000

5.3.4.4 Analysis of variance (ANOVA)

Analysis of variance were conducted to evaluate the mean differences of participant's answers. From the findings there was significant differences ((F (8, 379) = 1.19423, p < 0.000)) and ((F (8, 379) = 382.081, p < 0.000)) between means of answer question for Intention and motivation to use and adoption of e-services in the future respectively (Table74). These significant differences explain the impact the availability as independent factor on the intention and motivation to use and adoption of e-services as depended factors. Table 17 Appendix A present the differences between mean of answers of students.

TABLE 74: (INOVA)

Factor		Mean Square	F	Sig.	Regression ANOVA
Adoption	Between Groups	.135	1.19423	.000	High significant
	Within Groups	.000			
	Total				
Intention	Between Groups	1.606	382.081	.000	High significant
	Within Groups	.004			
	Total				

High significant $P < 0.000$

5.3.5 Adoption of e-services in higher education in Omar AL-mukhtar university depend on demographic differences

Demographic analysis was conducted between gender, age, educational level, professional background and e-services adoption to test the relationship between the study factors and illustrate the adopters and non-adopters in Omar AL-mukhtar university.

5.3.5.1 Gender and e-services adoption

From the chi-square findings, there was no significant difference between the adopters and non –adopters in both genders ($\chi^2 (1, N = 379) = 1.601^a, p < .293$) (Table 75).

TABLE 75: Sex as a Determinant of E-services Adopters and Non Adopters

Sex	Adoption of e-services		Total
	Adopter	Non adopter	
Males	179	7	186
Females	181	10	191
Total	360	17	377
X² Test (N=377)			
Gender x e-services Adoption			
	Value	DF	P (2-sided)
Pearson χ	1.601	1	.293

No significant difference between the gender of the adopters and non-adopters ($p < .293$)

5.3.5.2 Age and e-services adoption

Regarding to the age and e-services adoption, it's seemed to be that a significant differences ($\chi^2 (2, N =379) =14.273, p < .001$) between different ages of e-services adopters and non-adopters(Table 76).

TABLE 76: Age as a Determinant of E-services Adopters and Non Adopters

Age	Adoption of e-services		Total
	Adopter	Non adopter	
19-29 Y	157	40	197
19-29 Y	161	9	170
>40	8	2	10
Total	326	51	377
X ² Test (N=377)			
Age x e-services Adoption			
	Value	DF	P (2-sided)
Pearson χ	14.273	2	.001

A significant difference between the ages of the adopters and non-adopters ($p < .001$)

5.3.5.3 Education and adoption of e-services

With respect to educational level, there was s significant differences ($\chi^2 (4,N =379) = 89.545 p < .000$) between each educational level(Table 77).

TABLE 77: Education as a Determinant of E-services Adopters and Non Adopters

Education	Adoption of e-services		Total
	Adopter	Non adopter	
Post DR	3	1	4
Doctorate	121	2	123
Master	122	4	126
Bachelor	68	0	68
High diploma	41	15	56
Total	355	22	377
X ² Test (N=377)			
Education x e-services Adoption			
	Value	DF	P (2-sided)
Pearson χ	89.545	4	.000

A significant difference between the education levels of the adopters and non-adopters ($p < .000$)

5.3.5.4 Professional background and adoption of E-services

Pearson's chi-square indicated that, there were no significant differences between adopter and non- adopter of e-services depending on the Professional background ($\chi^2(3,N=379) = .1127 p < .771$) Table 78).

TABLE 78: Specialization as a Determinant of e-services adopters and Non Adopters

Specialization	Adoption of e-services		Total
	Adopter	Non adopter	
computer and engineering	96	2	98
Economic and mathematics	105	6	111
medical and biology	85	3	88
literary	78	2	80
Total	364	13	377
X² Test (N=377)			
Specialization x e-services Adoption			
	Value	DF	P (2-sided)
Pearson χ	11.27	3	.771

No significant difference between the Specializations of the adopters and non-adopters ($p < .847$)

5.3.6Adoption of e-services in higher education in Omar AL-Mukhtar university depend on availability impact

Many statistical methods were used to determine the relation between the availability as independent factor and adoption of e-services as dependent factor. This chapter aims to evaluate availability as critical factor affecting successfully adoption and implementation of e-services in higher education in Omar AL-Mukhtar universities.

5.3.6.1Reliability test

The maximum reliability was presented by the availability of e-services (0.865) followed by Trust in electronic services(0.814) and Risk predict and privacy (0.722) (Table 79).

TABLE 79: Reliability of Measurements

Constructs	Cronbach's Alpha (a)	Type	Standards of Reliability
Availability of e-services	0.865	High Reliability	0.70-0.90
Trust electronic services	0.814	High reliability	0.70-0.90
Risk predict and privacy	0.722	High reliabilityyy	0.70-0.90

5.3.6.2 Binary correlation test

The results of this study reported that, there was a significant positive correlation between the availability of e-services and or the trust in ministry of higher education, technology and e-services education level and the e-services adoption. In contrast, there was no significant correlation between the risk predict and issue of privacy and the e-services adoption (Table 80).

TABLE 80: Correlations Between Availability and Related Factors and e-services Adoption

Factor	Adoption of e-services	Significant of correlation
The availability of e-services	.943** .001 377	High correlation High significant N
Trust in e-services	.192** .001 377	High correlation High significant N
Risk predict and issue of privacy	.077 .135 377	No correlation No significant N

** Correlation is significant at the 0.001 level (2-tailed)

5.3.6.3 Regression analysis with availability and other related factors

Based on regression analysis model, all the independent variable displayed significant effect on e-services adoption in higher education in Libyan universities. The highest percentage of beta size was achieved by availability (.956) followed by trust in ministry of higher education, technology and in services (.410). However, risk predict and issue of privacy has no significant effect on e-services adoption (.090) (Table 83). A significant model ($F(3, 377) = 243.968, p < 0.000$) (Table 82) with the R square being (.885)(Table 81).

TABLE 81: Regression Analysis (Model Summary)

Model	R	R Square	Adjusted R Square	Significant of correlation
1	.941**	.885	.882	High correlation

** Correlation is significant at the 0.001 level (2-tailed)

TABLE 82: Regression: Analysis ANOVA

Model	Sum of Squares	Mean Square	F	Sig.	Regression ANOVA
Regression	9.541	3.180			High significant
Residual	4.862	.013	243.968	.000	
Total	14.403				

High significant P< 0.000

TABLE 83: Regression Analysis Coefficients

Factor	Unstandardiz Coefficients	Standardiz Coefficien	t	Sig.	Significant regression
	B	Beta			
The availability e-services Trust in e-services Risk predict, privacy	.144		6.419	.000	High significant
	.999	.956	12.40	.000	
	.169	.410	6.099	.000	
	.008	.090	.374	.634	

High significant P< 0.000

5.3.6.4 Analysis of variance (ANOVA)

Study of analysis of variance confirmed that significant differences ((F (8, 381) = 1.20143, p < 0.000)) between means of answer question for Intention and motivation to use and adoption of e-services in the future ((F (8, 381) = 384.240, p < 0.000)) were approved (Table 84). These significant differences confirm the impact of the availability as independent factor on the intention and motivation to use and adoption of e-services as depended factors. Table 18 Appendix A present the differences between mean of answers of students.

TABLE 84: INOVA

Factor	Relation between factors	Sum of Squares	Mean Square	F	Sig.	Regression ANOVA
Intention	Between Groups	1.076	.134	1.18843	.000	High significant
	Within Groups	.042	.000			
	Total	1.118				
Adoption	Between Groups	12.848	1.606	379.923	.000	High significant
	Within Groups	1.556	.004			
	Total	14.403				

High significant $P < 0.000$

5.4 Discussion

The full benefits of e-services may only be obtained when the majority of people get access to internet and electronic services channels and fully integrated participation of people; government has to address this issue (Hossan et al., 2007). However, government can use the available channels to provide services until they are able to overcome the potential challenges, barriers and introduce full e-channels and technologies infrastructures with respect to e- services. The questionnaires was distributed to 1200 participants Students from different universities (381 students from Tripoli university, 379 students from Benghazi university and 377 students from Omar AL-Mukhtar university)to gain different perceptions in paper based survey. The data were analyzed by different statistical methods to detect the impact of availability and related factors on e-services adoption in higher education in Libya.

Findings of adoption of e-services in higher education regarding to demographic differences for the three universities confirmed that there was no significant differences between genders. This finding differs from Al-Shafi's (2009) result that showed a significant difference between the gender of the adopters and non-adopters ($\chi^2(1, N =1146) =70.411, p < .001$). Regarding to participants' age, there was significant differences between their age in each university. Results of this study agreed with Al-Shafi's (2009) findings showing a significant difference between the

ages of the adopters and non-adopters ($\chi^2 (5, N = 1147) = 83.655, p < .001$). With respect to education level for the three universities, there were significant differences between adopter and non-adopter. The finding of this research confirms Al-Shafi's (2009) results by declaring a significant difference between the education levels of the adopters and non-adopters ($\chi^2 (2, N = 1130) = 26.833, p < .001$). Results of this study for participants' specialization indicated that, there were no significant differences between different participants' background in each university. Nassraddeen (2010) stated that still a large number of participants (more than three quarter of them) do not visit e-services websites, considering each participant. There are significant differences in the adoption of electronic services, among the different levels of education and different age groups, due to the high level of awareness of e-services among the doctoral and master students. As well as most of the students were in young and middle-aged adults who doing master or PH.D.

Results of the reliability for the three universities approved that, the highest reliability belongs to the availability of e-services in higher education followed by trust in electronic services and risk predict and privacy. This finding of this study confirmed that the high alpha values of the availability of e-services indicates that the availability of e-services were internally consistent. Consequently, the availability of e-services is reliable and the higher the alpha (α) value, the higher the reliability of availability of e-services. The higher the Cronbach's value of construct scores is the higher the reliability of measuring the same construct is (Dwivedi et al., 2006). Nassraddeen (2010), used the internal consistency method which provides a unique estimate of reliability for the given test administration. He found that, the Cronbach's alpha value was (.826) for the SPSS output of the reliability test for the overall measurement. Therefore, the scales of two samples can be treated as reliable.

Finding of a binary correlation for three universities showed that, there was a significant positive correlation between the availability of e-services and the trust in ministry of higher education, technology as independent variable and e-services adoption as depended variable. The goal of correlation analysis is to find out whether two variables are related. There is a significant correlation between the availability of e-services and trust in higher education and the adoption of e-services. Due to that the greater the level of availability and infrastructure quality, the greater the trust in e-services and adoption of e-services. Thus increasing the intention and willingness to e-

services adoption. If the variables are related, Spearman's Rank Correlation allows researchers to determine the degree of relation (Chen et al., 2006). Spearman's Rank Correlation is a method to describe the behavior of dependent variables – in this case, the adoption of e- services. The finding of this research confirms Al-Shafi's (2009) results by declaring a significant correlation between performance expectancy, effort expectancy and social influence and adoption of e-services.

Results of regression analysis for three sample of participants from three universities approved that, the significant variables that affect e-services adoption in higher education in Libyan universities are the availability of e-services and trust in ministry of higher education, technology and e-services. The higher the values of regression , the stronger the relationship between the availability of e-services and trust in ministry of higher education and the e-services and the adoption of e-services. This indicates that, the higher the quality of e-services, the availability and the infrastructure the higher the adoption of e-services. Thus ,increasing the intention to use and adoption of e-services. Al-Shafi (2009) reported that, There was a significant positive correlation between performance expectancy and or social influence and behavioral intentions to adopt e- services.

There was a significant differences between means of answer question for each factor (intention and motivation to use and adoption of e-services which explain the impact the availability as in independent factor on the intention and motivation to use and adoption of e-services as dependent factors. The analysis of variance results indicate the existence of a relationship between the availability of e-services as an independent factor and intention to use and adoption of e-services as a dependent factors. That's mean the higher the availability of e-services, the higher the intention and adoption of e-services. This can be observed from the significant differences between the means of the questions' answers for each factor between groups and within groups.

5.5 Conclusion

This chapter display the main important results of the availability of e-services in Libyan universities. The conclusion of this chapter can be summarized as follows:

1-The impact of availability of e-services on the success of e-services adoption in the Libyan universities was very high.

2-Most of the participants are willing to use e- services websites if the government improves the infrastructures in case the public can obtain access to e-services websites easily and less costly. A few participants are still not or not that much ready to use e-services website. The lack of awareness and low availability of technology influence the use of e-services.

3-Implementing project such as e-services requires a change in attitude and behavior of students such as: improve their awareness, establish technological infrastructures, change culture and create reliance.