

CHAPTER III

QUESTIONNAIRE DEVELOPMENT AND PILOT STUDY RESULTS

3.1 Introduction

The present section is intended to be a test of the methodologies being adopted to understand the awareness of e- services concepts amongst university students from a Libyan viewpoint. Haddock et al., (1998); van Teijlingen & Hundley, (2001) have recommended conducting a survey amongst at least ten respondents who should fill in and complete the questionnaire for the purpose of this kind of study. The current study was conducted in a pool of around fifty Libyan students who all provided their feedback and viewpoints to make the study as effective as possible. Libyan respondents to this study were all asked to provide their viewpoints on a number of factors, including their thoughts on aspects like the current access to e-services platforms, their comfort with using computers and the internet, their primary reasons for normally using them and the frequency of accessing these tools, the respondents understanding of the purposes, goals and objectives of the ministry of higher education, the available technology and awareness on the risks and issues of privacy in using electronic services. Hence, major factors in e-services service were all examined.

3.2 Methodology

This section is intended to discuss the methodologies for this research and the procedure adopted to find answers to the queries made to respondents. Aspects of the research design, sampling adopted, instrumentation, data collection and analysis are all discussed.

Considering that this study is intended to evaluate student awareness on the advantage and disadvantage of adoption and implementing e-services in the Libyan higher education sector; quantitative methods are being adopted for the study.

For the purpose of this study, a closed and set questionnaire was used which will provide and fulfil parameters of quantitative aspects for the study. Both primary and secondary methodologies are being adopted for appropriate data collection, wherein questionnaires and personal observations will constitute primary data while government publications, surveys, available statistics, books, journals and the like will constitute secondary sources (Saunders et al., 2003 & Thomas, 2003).

3.2.1 Quantitative strategy using questionnaire

Extensive quantitative approaches for gathering data in this research were employed by the use of surveys using detailed questionnaires (Chisnall, 1997). There are basically four sections to the quantitative survey being undertaken, questionnaire development, pilot study, questionnaire translation, and the sample used for the study.

3.2.2 Questionnaire development

As per Collis & Hussey, (2003), a questionnaire should intend asking a carefully tailored and structured series of investigative questions from the students' sample so that the issue under consideration is explained in detail. Questions can be either open or close ended (Oppenheim, 2001). This enables the measurement of various aspects of the issue using the questionnaire.

For the purpose of completing the study on the availability of e-services and awareness of e-services in Libyan higher education, inputs to higher education need to be gathered regarding the awareness of the students on e-services, their understanding of its impact in society, its success and consideration of related parameters associated therein, all require a detailed investigative survey to be conducted for which an appropriate data collection strategy needs to be formulated. Simple English language based questionnaires were drawn up, explaining terms in the document wherever deemed necessary for the responders. A corresponding Arabic translation of the document will also be made, and respondents will be offered to choose from either of the two versions, depending on their comfort in using any of the two languages. Complete privacy will be strived to be maintained, with respondents encouraged to remain anonymous by not stating their identity, gender, names etc anywhere on the

documents being completed by them. Questionnaires was randomly distributed amongst the students' sample identified. Proper records would be maintained on who was provided the documents, so that subsequent follow-ups could be conducted for collecting back and summarizing the responses. It would be ensured that the flow of the questions is logical, crisp and to the point, in easy to understand language, throughout the document. Particular sections in the document would deal with specific aspects of an issue so that the respondent is not confused and would instead be able to relate to the questions being asked.

3.2.3 Questionnaire translation

In order to ensure that the research, indeed, proceeds in the direction intended, a sort of two step check and balance procedure will be adopted, wherein the English language questionnaire will be initially drawn up. This document would then be translated into Arabic and evaluated. Subsequently, the Arabic language text of the original document would be again translated back to English by an alternate professional translator, to ensure that what is being intended to be circulated is indeed accurate to the extent possible (Saunders *et al.*, 2003).

3.2.4 Pilot study

It is very important that a pilot study of the questionnaire is circulated amongst a representative sampling so that it is analysed on whether the questions in the document actually serve the purpose for which the entire exercise is being conducted. Both Haddock *et al.*, (1998); and van Teijlingen & Hundley, (2001) recommend that at least 10 respondents should be initially identified for this exercise, which contacted by e-mail or cell phones for the purpose. All this effort will provide the twin benefits of improving upon the queries being circulated, besides ensuring that the language of the document is indeed being understood by the intended students (Saunders *et al.*, 2003; Miles & Huberman 1994). Ultimately, the entire exercise is intended to arrange for the researcher to receive feedback on the testing method being employed for the overall research, and ensuring that the entire exercise would provide the required information within the constraints. Hence, the pilot study would enable the use of

appropriate formatting, choice of words and clarifying and correcting upon all related aspects.

3.2.5 Sampling

Aspects of randomization and bias amongst the respondents are two distinct elements which are important to be kept in consideration when conducting a research of the nature and type being undertaken. Also, the researcher should strive to select a students for the survey from the multitudes of respondents available, who should have a bearing on the survey, thus making the selection logically and statistically defensible as researchers should strive to create as accurate as possible a representative sample of the general population or case of study, and that such sample if planned precisely will highly increase the external validity of the research (Leedy, 1997). Accordingly, an appropriate group of respondents were selected from Libyan society and then the questionnaire was randomly distributed within the selected mixed population of Libyan educationists, students.

3.2.6 Data collection procedures and Sample used

This study will involve questionnaire distribution to gather required data as. The pilot study questionnaire was ultimately distributed across 70 Libyan students in Malaysia (paper based survey) from the 1st of November 2013. Of these, 65 of them were collected back, but 15 were subsequently discarded for lack of completion (because the respondents didn't answer some of questions) or multiple answers were provided to single questions. All in all, 50 answer scripts were used for later analysis in the pilot study.

3.2.7 Quantitative data analysis

The analysis of the data gained by summarizing the questionnaires would be analysed and a general profile would be required to be develop. This would give and reflect the awareness of students on e-services and its impact on the higher education in Libya.

Punch's, (2003) guidelines on the three stage quantitative data analysis process would be utilized, which would include creating variables, distributing them across the entire

questionnaire's sections specifically selected and ultimately creating relationships as follows:

1. Defining variables

Individual sections of the draft details a multitude of aspects, each of which are related to specific issues intended to be addressed by the individual questions. These varied aspects will be drawn out of the questionnaire irrespective of them being independent or dependent. This would include:

- 1-Background information on current age and academic level.
- 2-Expertise and familiarity with computers including aspects of PC usage, time, purposes and proficiency levels.
- 3-Corresponding internet experience, using computers with aspects of internet usage, time, purposes and proficiency levels.
- 4-e-services experience, including levels of awareness of e-services and willing to adopt these services in higher education in Libya.

3.2.8 Statistical data analysis

Results of the survey undertaken were subsequently correlated between the multiple variables. This included various combinations including create relationships such as the relationship between the age, academic levels and professional background with the adoption of e-services. All the multiple combinations between variables will be analysed with the following statistical methods:

1. **Frequency distribution:** Grouped data was processed for this aspect based on the independent variables of gender, age, academic levels, computer and internet familiarity.
2. **Reliability test:** To ensure that the data collected is true and consistent to the extent possible, the reliability of the data was measured by utilizing Cronbach's coefficient alpha values (excellent reliability ranges 0.90 and above, high reliability 0.70 - 0.90, high moderate reliability 0.50 -0.70 and low reliability 0.50 and below) which measured the internal consistency of the characters (Hinton *et al.*, 2004; Field, 2005). Arithmetically, reliability was explained as a proportion of the variability against the responses to the survey as per the equation stated in chapter IV.

3. **Basic Chi Square (χ^2)** investigating availability and e-services students' awareness was central to this research. thus particular emphasis was placed on exploring possible relationships between different variables in this study. Hence special attention was spent on finding probable relationships across the multiple variables using the Chi Square (χ^2) test.

4. **Correlations methods:** Correlation analysis were used to evaluate and understand the relationship between the multiple variables.

3.3 Pilot study results

3.3.1 Respondents' profile

This study verifies the student attitude toward e-services in Libyan universities. Furthermore, it provides a representative data on the level of students' awareness of the e-services adoption . In order to test the efficiency of the data collection tools, the pilot study was used. The adoption and usage of the e-services among higher education students were studied based on the following factors; student awareness, availability of e-services, familiarity with the computer and internet, intention and motivation to use, trust ministry of higher education, the technology and e-services risks and issues of privacy.

3.3.1.1 Gender of respondents

Results of demographic background of 50 Libyan students in Malaysia, is as follow: Regarding to gender of respondent students, (54%) of the 50 participant were males, while (46%) of the total participant were females (Figure 1, Table 1).

TABLE 1: Gender of Respondents

Gender	Frequency	Percent
Males	27	54
Females	23	46
Total	50	100

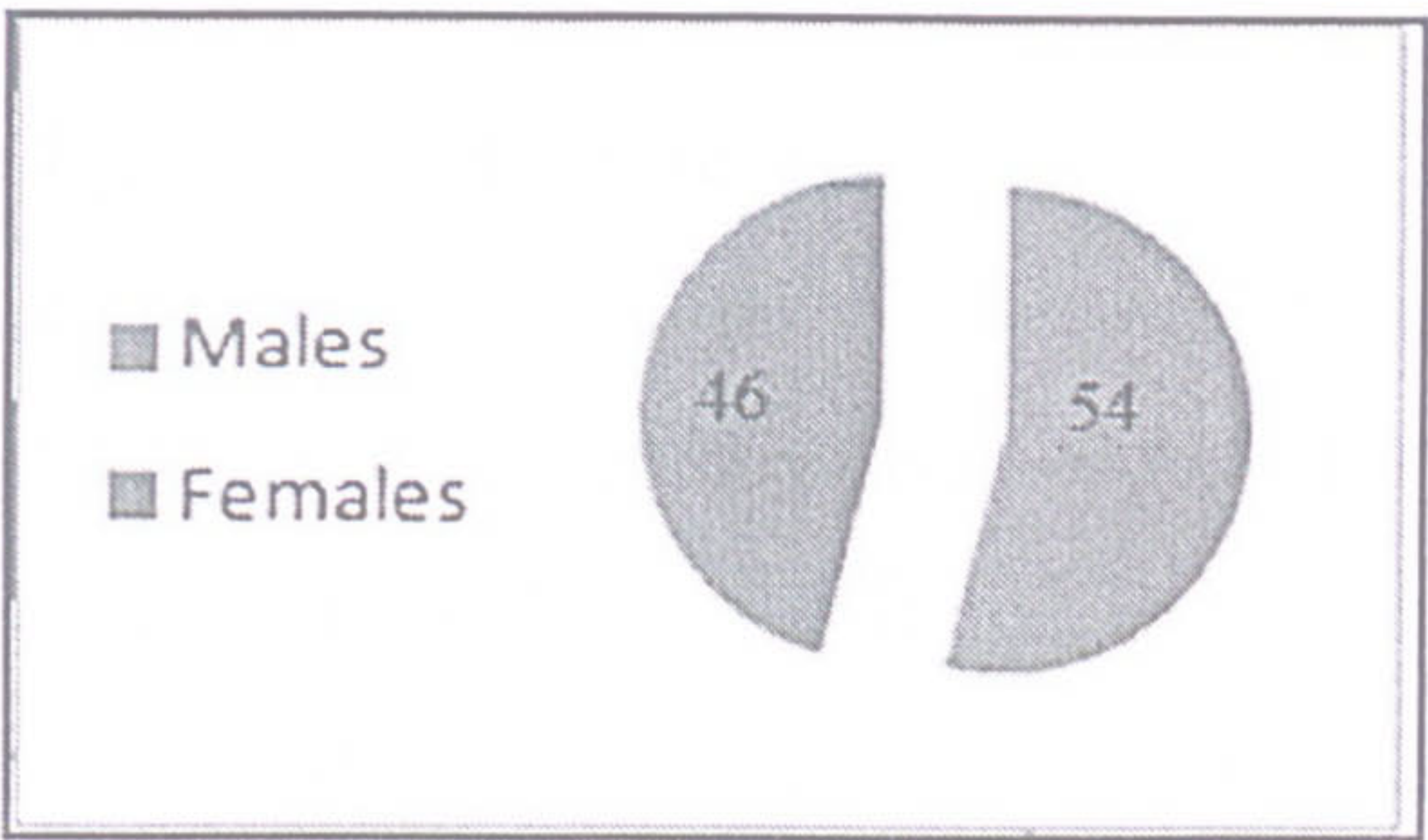


FIGURE 1: Gender of Respondents

3.3.1 .2 Age of respondents

Evaluating the age wise distribution of the respondent students, it is observed that the largest group of 46% comprise of individuals in the age bracket of 30-40 year, followed by 40% of answers received from a students in the age bracket of 19-29 years. The age group of >40 years were in the minority at just 14% (Table 2, Figure 2).

TABLE 2: Age of Respondents

The Age Groups	Frequency	Percent
19-29 Years	20	40
30-40 Years	23	46
>40 Years	7	14
Total	50	100

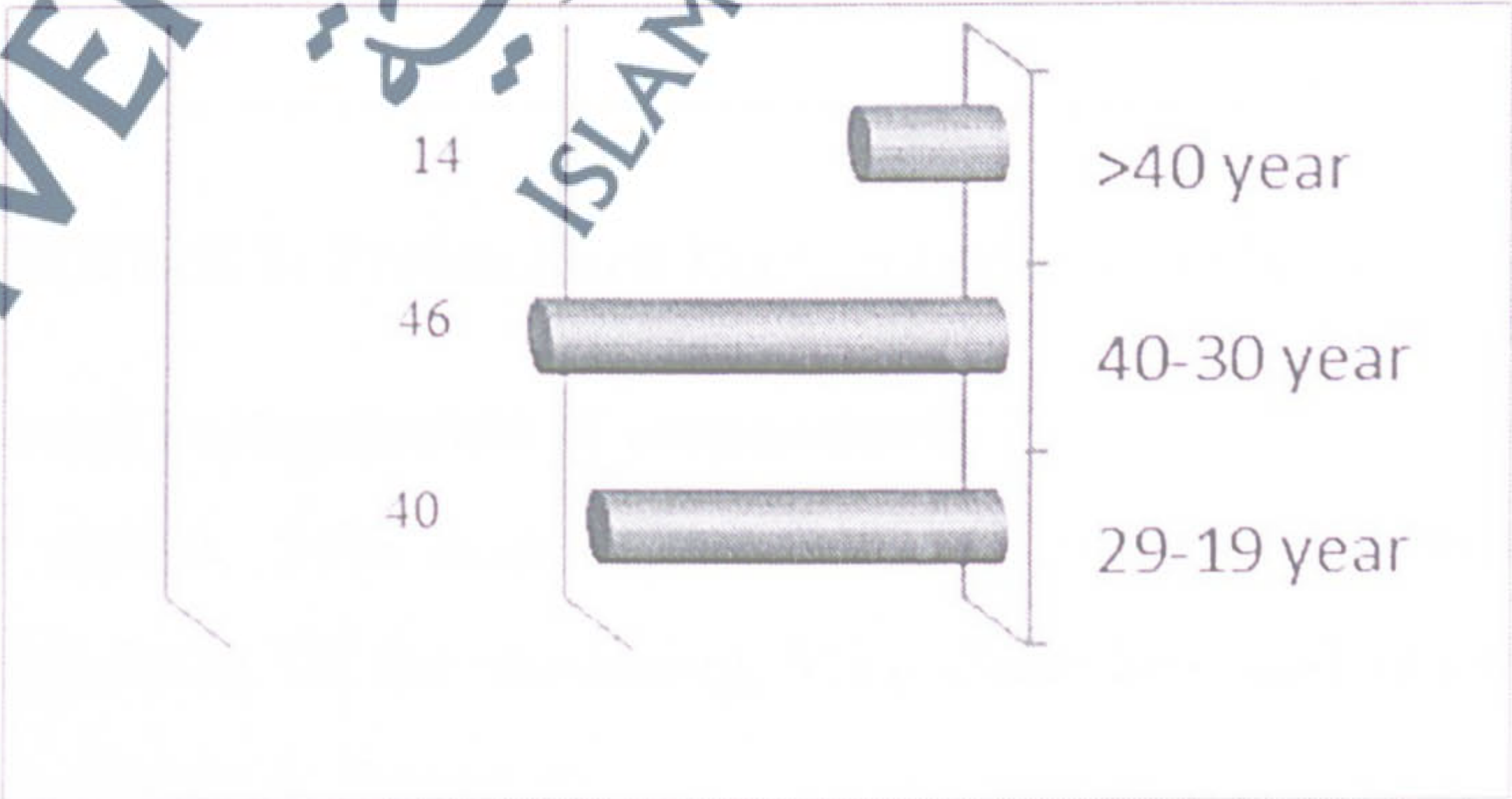


FIGURE 2: Age of Respondents

3.3.1. 3 Professional backgrounds of students

Summarizing the professional background of the respondents participating, the participation of the students of Computer Communication, and, Engineering and Mathematics was observed equally at 30%. Medicine and biology students we runner ups at 16% while economics and management comprised of 14%. Literary students wrapped up the score at 10% of the total (Figure 3, Table 3).

TABLE 3: Professional background of Students

professional background	Frequency	Percent
Computer Communication	15	30
Engineering and Mathematics	15	30
medicine and Biology	8	16
Economic and Management	7	14
Literary	5	10
Total	50	100



FIGURE 3: Professional Backgrounds of Students

3.3.1.4 Educational backgrounds of respondents

Evaluating this aspect, 54% respondents are PhD degree students and 30% are Masters Degree students. Of the remaining, 6% a Bachelors students while just 4% are Diploma students (Table 4, Figure 4).

TABLE 4: Educational Background of Respondents

Education	Frequency	Percent
Doctorate	27	54
Master	15	30
Bachelor	4	7
Diploma	2	5
short course	2	4
Total	50	100

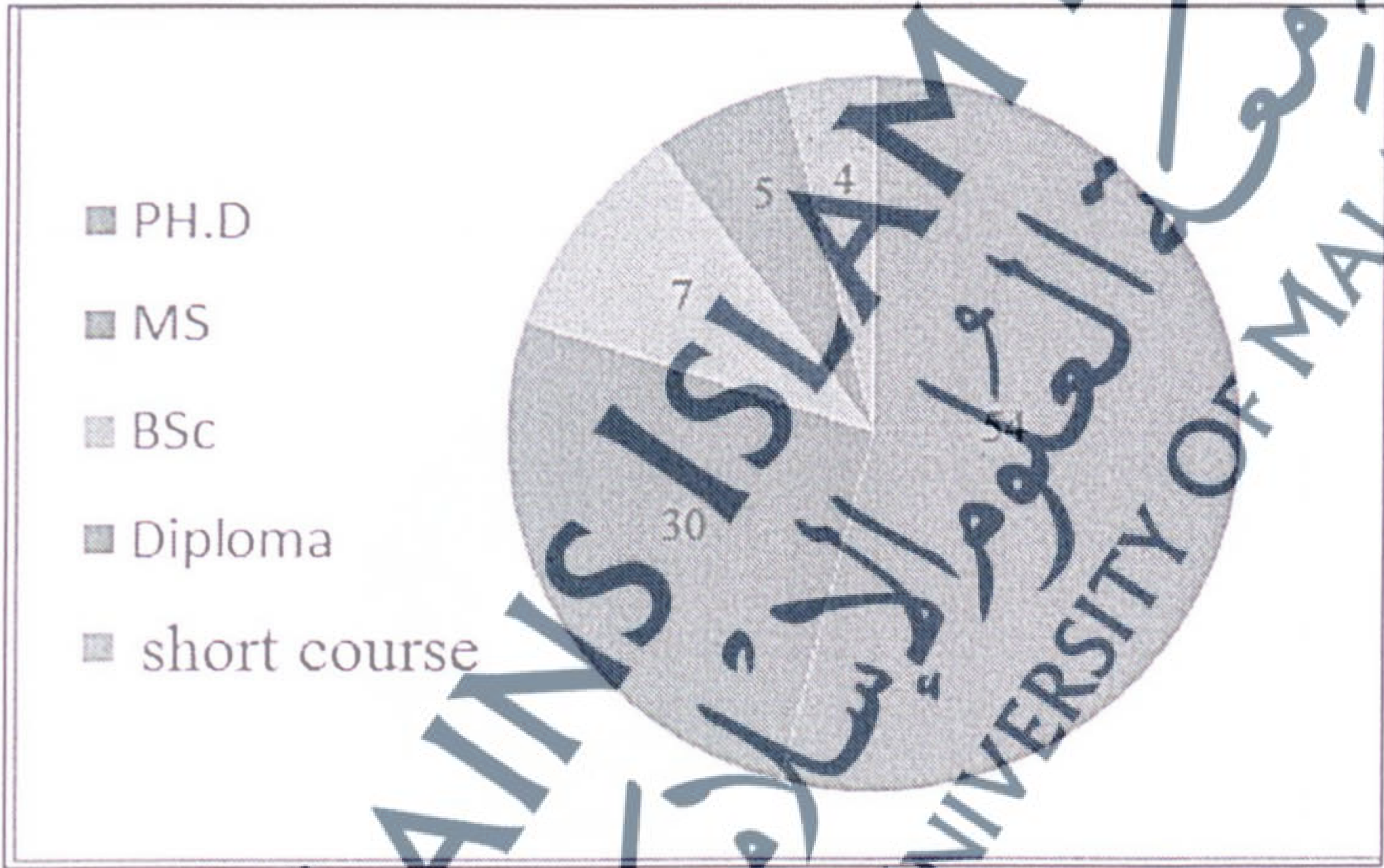


FIGURE 4: Educational Background of Students

3.3.1.5 Students internet experience

Evaluating internet experience amongst the students, we observe 72% of students have >4 years familiarity with the Internet. 20% are using this medium since the last 3-4 years while only 8% are accessing the web for 1-2 years (Table 5, Figure 5).

TABLE 5: Students Internet Experience

Students Internet Experience	Frequency	Percent
1-2 years	4	8
3-4 years	10	20
>4 years	36	72
Total	50	100



FIGURE 5: Students Internet Experience

3.3.1.6. Students computer experience

On a corresponding note, around 84% of respondents had been using computers for >5 years, around 12 % had been using the net for around 3-5 years, while just 4% of students had <3 years of experience with computers (Table 6, Figure 6).

TABLE 6: Students Computer Experience

Students Computer Experience	Frequency	Percent
< 3 years	2	4
3-5 years	6	12
>5 years	42	84
Total	50	100



FIGURE 6 Students Computer Experience

3.3.1.7 Respondents' internet usage

Evaluating the internet usage of the respondents, almost 86% of students used it on a daily basis while 14% used it weekly (Table7, Figure 7).

TABLE 7: Respondents’ Internet Usage

Respondents’ Internet Usage	Frequency	Percent
Daily	43	86
Weekly	7	14
Monthly	0	0
Annually	0	0
Total	50	100

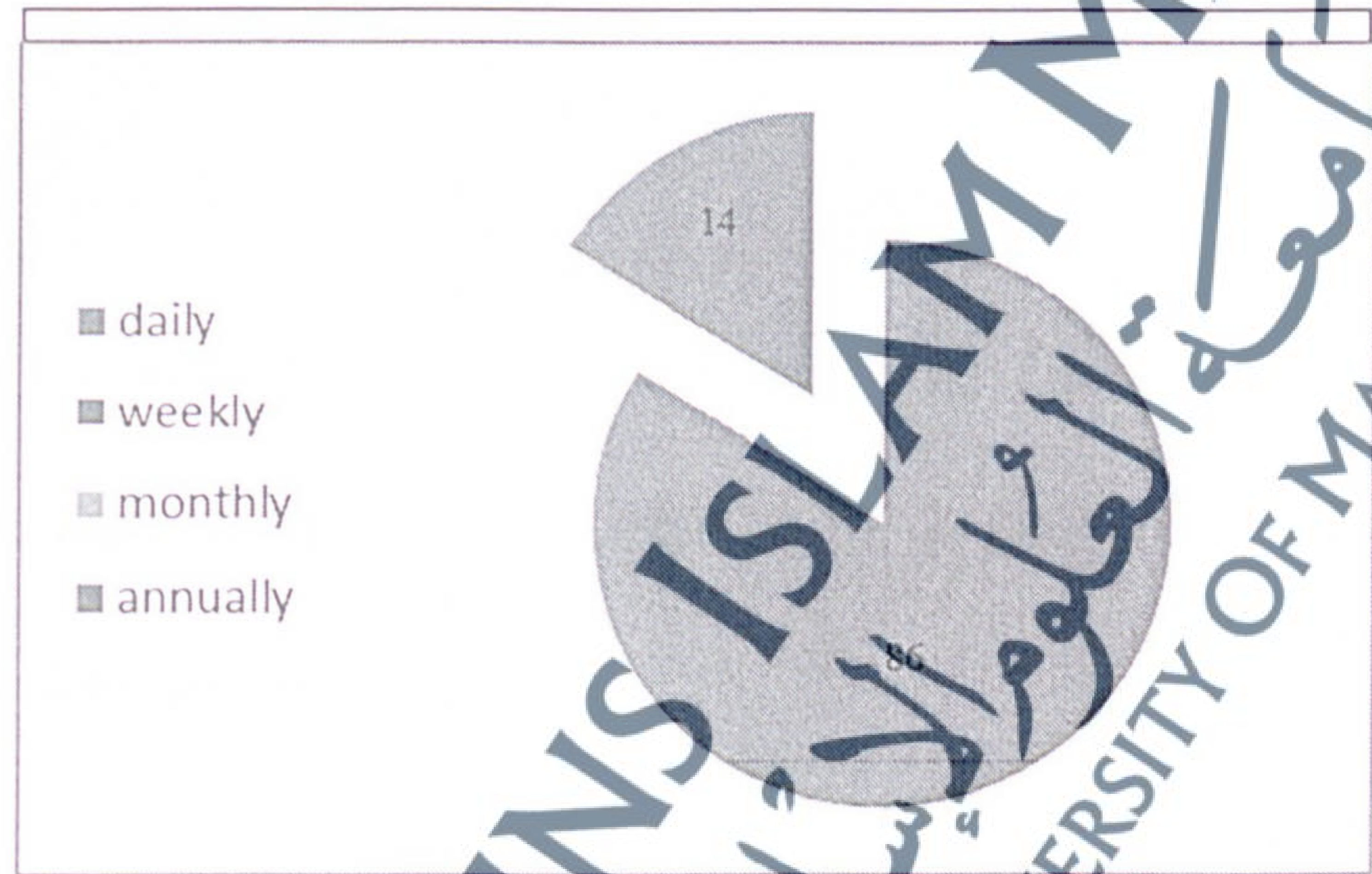


FIGURE 7: Students Internet usage

3.3.2 Reliability test

Generally, reliability test measures the accuracy of data obtained after the pilot study are completed with the questionnaire. It is probably measured by estimates from Cronbach’s coefficient alpha values, which approximates the internal consistency of the data obtained (Hinton *et al.*, 2004; Field, 2005). In mathematical formula, this is defined as the proportion of the variability in the answers received, defined as per the following equation:

$$\alpha = \frac{k(\text{cov}/\text{var})}{1 + (k-1)(\text{cov}/\text{var})}$$

Where K= number of items in the survey

cov= ratio of the average inter -item covariance

var= average item variance.

Hinton *et al.*, (2004) has proposed 4 variations of reliability; the top tier at ranges of 0.90 or above, second tier between 0.70 - 0.90, a third tier at 0.50 – 0.70 and finally the lowest measure at 0.50 or below. Cronbach’s measure of reliability has measured at 0.773 on awareness of e-services, and has measured 0.905 for intention and motivation to use, 0.751 for availability of electronic services, 0.745 for trust in the higher education ministry, 0.726 for risk prediction and privacy, and a score of 0.887 for adoption of e-services.

TABLE 8: Reliability of Measurements

Study factors	Cronbach's Alpha (a)	Type	Standards of Reliability
Awareness of e- services	0.773	High reliability	0.70-0.90
Intention and motivation	0.905	Excellent reliability	≥ 0.90
Availability of e-services	0.751	High Reliability	0.70-0.90
Trust in electronic services	0.745	High reliability	0.70-0.90
Risk predict and privacy	0.726	High reliability	0.70-0.90
Adoption of e-services	0.887	High reliability	0.70-0.90

3.3.3 Descriptive statistics

Descriptive statistics was used to explain the various measures of means and standard deviation of study factors involved in the current project. Average scores for respondents to the survey regarding electronic awareness was designated 100 if they agree and 0 if they disagreed, which is extreme. The average of the intention and the motivation to use was at 146.5 for concurring, compared with 3.5 for disagreeing which is on the extreme side. However, the mean for the availability of electronic

services was extraordinary at 301.5 for a disagreement, although it was 21 for agreeing, which was low. Adoption of e-services clocked in a high number of positive responses at 24, and there was one single dissent to this. As far as trust in electronic services and risk and privacy are concerned, they showed readings of 24 and 16.5 respectively, for agreement, compared with 49.5 and 55 respectively for dissent, both of which reflected divergence. Descriptive statistics reflected high divergence in the mean values on positive and negative answers, all of which are indicators on the trends for agreeing or disagreeing to the implementation of e-services practices in the Libyan higher education sphere(Appendix A Table 1)

3.3.4 Adoption of e-services in higher education in Libya based on demographic differences

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

3.3.4 .1 Gender and e-services adoption

Table 9 explains the genders of respondents as determinant of adopters and non adopters. Pearson's chi-square test confirmed major differences between the adopters and non adopters ($\chi^2 (1, N=50) = 2.769, p < .032$) (Table9). Binary correlation tests were adopted to explore the incidence of gender affecting responses on e-services adoption, and the study indeed reflected a major correlation between student gender and the responses to adoption trends (Appendix A Table 2).

TABLE 9: Sex as a Determinant of e-services Adopters and Non adopters

Sex	Adoption of e-services		Total
	Adopter	Non adopter	
Males	25	2	27
Females	21	2	23
Total	46	4	50
X² Test (N=50)			
Gender x e-services Adoption			
Value		DF	P(2-sided)
2.769		4	0.032

significant difference between the gender of the adopters and non-adopters ($p < .032$)

3.3.4 .2 Age and e-services adoption

Table 10 indicates that age is perhaps less of a factor influencing the responses to e-services adoption, with almost all ages signifying a uniform response to the issue.

A binary correlation test reflected that there was high correlation between the ages of the respondent students and the adoption of e- services (Appendix A Table 2).

TABLE 10: Age as a Determinant of e-services Adopters and Non adopters

Age	Adoption of e-services		Total
	Adopter	Non adopter	
19-29 Y	20	0	20
30-40 Y	22	1	23
>40 Y	6	1	7
Total	48	2	50
X ² Test (N=50)			
Age x services Adoption			
	Value	DF	P (2-sided)
	0.028	1	0.867

No significant difference between the ages of the adopters and non-adopters ($p < .867$)

3.3.4 .3 Education and adoption of e-services

Table 11 show the effect of educational level on adoption of e-services. Indeed, this table reflects that educational background significantly influencing for and against decisions to this aspect, as re-affirmed by Pearson’s shi-square ($\chi^2 (N=50) = 17.494 p < .002$). Binary correlation analysis also confirmed this aspect (Appendix A Table 2).

TABLE 11: Education as a Determinant of services Adopters and Non adopters

Education	Adoption of e-services		Total
	Adopter	Non adopter	
Doctorate	27	0	27
Master	15	0	15
Bachelor	2	1	3
Diploma	2	1	3
short course	1	1	2
Total	47	3	50
X ² Test (N=377)			
Education x e-services Adoption			
	Value	DF	P (2-sided)
	17.494	4	0.002

A significant difference between the education levels of the adopters and non-adopters ($p < .002$)

3.3.4 .4 Professional background and adoption of e-services

A final Pearson's chi-square evaluation of the professional background of the respondents and their views on e-services reflects serious and wide variations within the students surveyed ($\chi^2 (N = 50) = 10.585p < .032$) (Table12). This was also reaffirmed by binary correlation analysis which proved major reverse correlation

between professional backgrounds and agreements to adopt e-services (Appendix A Table 2).

TABLE 12:The professional background as determinant of Adopter and Non Adopter

Specialization	Adopt of e-services		Total
	Adopter	Non adopter	
Computer communication	15	0	15
Engineering and mathematics	9	6	15
Medical and biology	5	3	8
Economic and management	4	3	7
Literary	5	0	5
Total	38	12	50
X ² Test (N=377)			
Specialization x e-services Adoption			
Value	DF	P (2-sided)	
10.585	4	.032	

A significant difference between the Specializations of the adopters and non-adopters ($p < .032$)

3.3.5 Study factors and adoption of e-services

A highly positive correlation between study factors (familiarity with the computer and internet, awareness of e-services of higher education, intention and motivation to use, availability of e-services, trust in technology and higher education and risk and privacy) and e- services adoption (Appendix A Table 3).

3.4 Discussion

The entire exercise depicted university students' inclinations and the adoption awareness of e-services in Libyan institutions. A pilot study was initiated to increase accuracy in the results. The following factors were considered in analysing the adoption and usage of e-services by the students: student awareness, accessibility to e-services, ease of using computers and the web, affinity to use the services, trust in the ministry of higher education, perceptions on the privacy infringement risks in using technology and e-services. All the selected students were respondents, 54% of respondents were male and 46% were female. The reason may be due to having the same level of awareness and willingness to use electronic services of both sexes. In addition the students of this study are in higher education level, so they have a higher level of awareness of e-services compared with the previous study on line based survey by Nassraddeen , (2010) which focus on high school students. He selected equal number of males and females but the respondents were 94.7 % males and only 5.3% were females (Nassraddeen, 2010).

The largest participating group of students was in the age brackets of 19-29 years, and also 30-40 years. This study suggested that, most participants were relatively young and middle-aged adults . Because they are naturally higher education students. An earlier study by Nassraddeen, (2010) observed that, the percentage of students who are between the ages 19-25 years was 12.1%, the percentage of students who are between the ages 26-35 years, was 47.7%, the percentage of students who are between the ages 36-45 years was 29.3% ,while the percentage of respondents who have greater or less than these ages was 11.1% .

In terms of professional background of the respondents, computer communications, engineering and mathematics had the higher percentages while medicine and biology, economic and management and literary had the lower percentages, all of which depicted that there was no major difference between participants in a professional background. This because of the random distribution of a questionnaire among students from different universities and different specializations.

As far as the educational levels of the respondents were concerned, they included doctorates, Masters and diploma students too. The number of master and doctoral students was the largest, compared with Nassraddeen's study, (2010) which had a lower number of master and doctoral students. This is because the sample of this study was focus on higher education students only. On the other hand the majority of Nassraddeen's sample was from high schools students and staff, while included a few number of higher education students. Nassraddeen's, (2010) analysis involved 43% of the students having a Bachelor's degree, 22.5% being high school students, around 23.7% having studied up to the postgraduate level with only 0.5% having no formal education.

As per figure 5, most of the student had been using internet services for over 4 years, followed by students who had been accessing the web for 3-4 years while the lower percentage of students were using the internet for 1-2 years. This study included the largest number of students who have used the Internet for more than 4 years, In comparison, Nassraddeen's study, (2010) included the largest number of Internet users for 2-5 years and the lowest percentage of Internet users was from Category of users who have used the internet for more than 5 years. The reason is that the study sample was limited to students of higher education and included the largest number of postgraduate students who have used the Internet for a longer time in different study levels compared with Nassraddeen's sample which was mostly from high schools, undergraduate students and staff who have used the Internet for a shorter time in their studies. Nassraddeen, had involved 46% of respondents using the web for 2-5 years, 29.3% using internet for more than 6 years and about 10.1% accessing the web for greater than a decade during the time they were staying and studying abroad.

To conduct this study, a predominant majority of students had previous exposure and expertise in using computers. Around 84% of students had been interacting with computers for more than 5 years and 12% had been doing so for 3-5 years. compared with the previous studies, the highest percentage of students was from who have used computer for more than 5 years, due to the sample of study that was limited to higher education students, while study of Nassraddeen (2010) don't focus on higher education students, but extended to high school students and staff.

Nassraddeen (2010) observed that, up to 28.5% respondents had functional working knowledge of computers, with an additional 28% indicating more than functional knowledge with computers. 34.3% had advanced knowledge but 8.8% were also beginners with only a grudging understanding of the dynamics and basics of computers.

For the purpose of this research project, the selected students reflected over 86% of the respondents as daily internet users. Comparison with previous studies, the findings of this study showed that the percentage of the daily use of the Internet was high because of the study sample that have focused on masters, doctoral and bachelor students who have used the Internet constantly in their researches and assignments and preparation of lectures. Nassraddeen's sample included a fewer Number of daily users, due to the components of sample, a small number of Nassraddeen study sample was from daily users, they are undergraduate students who use the Internet more than others. The Nassraddeen, (2010) study indicated that around 62.9% of respondents accessed the web on a daily basis, 26.3% accessed the internet 3-4 times a week, while a minority 9.6% logged in on only a weekly basis.

As a rule of thumb, greater the value of Cronbach's construct scores, the greater the measure of reliability. For the current research, Cronbach's alpha of 0.905 for the factor of intention and motivation to use technology expresses significant reliability of the figures. Other parameters deemed reliable all had Cronbach's alpha readings of 75-88%. This finding of this study confirmed that the high alpha values of the study factors indicates that the factors were internally consistent. Consequently, the factor of study is reliable and the higher the alpha (α) value of factor, the higher the reliability and measured in the same factor. The internal consistency method used by Nassraddeen (2010) provides a accurate measurement of the level of reliability for the given test. For the overall measurement of reliability, he observed that Cronbach's alpha value was 0.826 for the SPSS output. Hence, it can be said that both the sample scales are reliable for use.

The current study and an analysis of the corresponding figures all indicated towards the fact that there were quite divergent viewpoints on the advantage and disadvantage of adopting e-services in Libyan institutions. Significant differences between different gender, education levels and specialization in adoption of e-services

which reflected students' viewpoints. However, the age group of the respondents and was insignificant determinants against the adoption of e- services. There are significant differences in the adoption of electronic services, among the different levels of education and specializations, due to the high level of awareness of e-services among the doctoral and master students. As well as among the students who are professionals in the field of Computer communication more than others. These results were also reflected when taking the correlation coefficient into account (Appendix A Table 2). Al-Shafi (2009) had mean while declared that gender, age and academic levels were factors which had reflected divergent views on e- services adoption.

3.5 Conclusion

Based on all the above, we may summarize as:

1-The awareness level of e-services of students from higher education studying at various educational levels in Libya was very high.

2- The impact of e-services availability on the successful adoption of e-services within Libyan universities was also very high.

3-From the pilot study results, the questionnaire was modified. Only one question (number 15) had been modified ,because of the difficulty of its understanding by participants. A big part of participant was not able to answer this question (the e-services of higher education increases transparency in the transactions agree-disagree). It was necessary to explain it based on their request. it was easy to explain to each one of participant in such a small sample which would not be the same ease with the real study sample. The question was modified into (the e-services of higher education increases transparency in the transactions (prevent Nepotism ,favoritism and Bribery). After carrying out the amendments , the questionnaire was adopted based on alph value (Cronbach's coefficient) obtained , which is used to measure the feasibility, reliability and Validity of the questionnaire and to evaluate the extent of internal consistency, so that each question in each part is consistent with the others.

4-Appropriate reliability tests go on to prove that the methodologies adopted in the research is valid, and a high value of 0.90 in the Cronbach's value of the construct, indicates that the same is very reliable compare with Hinton standards (excellent reliability ranges 0.90 and above, high reliability 0.70 - 0.90, high moderate reliability 0.50 -0.70 and low reliability 0.50 and below) (Dwivedi *et al.*, 2006).

