

### ***3.0 Introduction***

This chapter presents statistical analysis for the targeted sample include number of 2 questionnaires, 95 responders which divided into two groups, 42 for the users, and the other 43 for experts. The researcher faced hard difficulties for finding the users who had experiences with system that were designed internally and with those that were designed externally.

This chapter is divided into three sections, the first section describes the community and the study sample, the second section analyses the users response, the third section analyses the expert's response.

#### ***3.1 The community and the study sample:***

We mean by the study community, the whole group of elements that the researcher aimed to generalize on and the results related to the studied problem.

*The original study sample population included two groups:*

##### ***The first group:***

A group of users who have already used two system types:

- 1- Systems designed locally, by local designers belonging to the same organization (the employer).
- 2- Systems designed by a third party, whether by:
  - a) Joint system (Local designers with external designers).
  - b) Outside the organization (that means from within the same country or from outside the country).

***The second group:***

The second group consists of experts who have knowledge of software and they were linked to the wide adoption of the resolution on the outsourcing of software and its applications working software companies, university professors etc.

The study sample was randomly selected from the study population, where the researcher distributed number of (42) questionnaires to the users and (43) to the experts, all of the responded i.e. (100%) despondences ratio.

To get accurate results as possible, a keen researcher shall accompany with him the diversity of the study sample in terms of coverage and concentrates on the followings:

- 1- Individuals from different age groups (less than 30 years, from 30 to 40 years, from 41 to 50 years, and above 50 years old) .
- 2- Individuals from various academic qualifications (diploma, university, graduate diploma, master, PhD, and other).
- 3- Individuals from different specialties (computer, accounting, management, economic, and other)
- 4- Individuals from different jobs (computer engineers, programmers, cashiers, managers, and other)
- 5- Individuals with different years of experience (from 1 to 5 years, from 6 to 10 years, from 11 to 15 years, and 16 and above years of experience).

The following is a detailed description of the study according to the above variables:

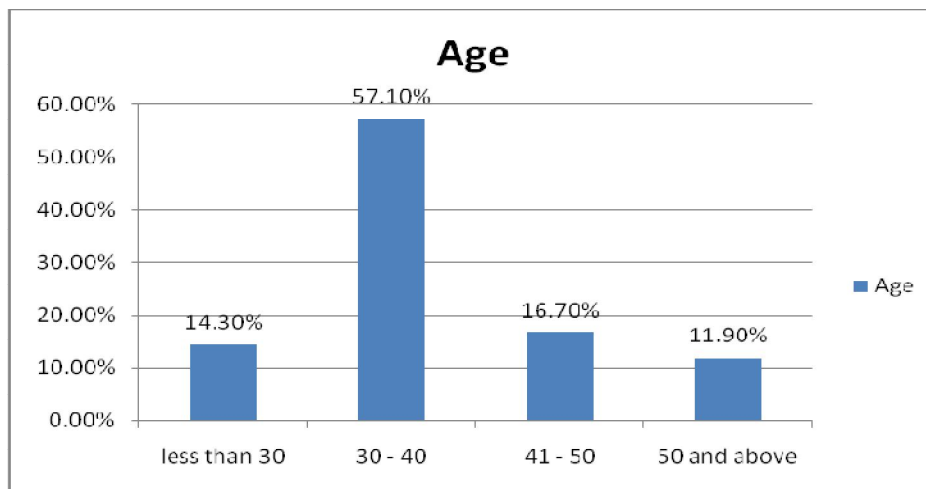
### 3.1.1 The users

#### 3.1.1.1 The Age:

Table (1) and figure (1) Frequency distribution of the study sample according to the age (users).

*Table 1: distribution of users according to age.*

Age	Frequency	Percent
less than 30	6	14.3%
30 – 40	24	57.1%
41 – 50	7	16.7%
50 and above	5	11.9%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



*Figure 1: distribution of users according to age*

As shown in Table (1) and figure (1) the majority of (24) from the study sample group were aged (30-40 years), and individuals representing a rate of (57.1%) of the total sample, followed by age group (41-50 years), that numbered (7) individuals and rated (16.7%) of the total sample, then the study sample aged less than 30 years, numbered (6) individuals and rated (14.3 %), and finally aged 50 and above years old, who numbered (5) individuals, and rated (11.9%) of the total sample.

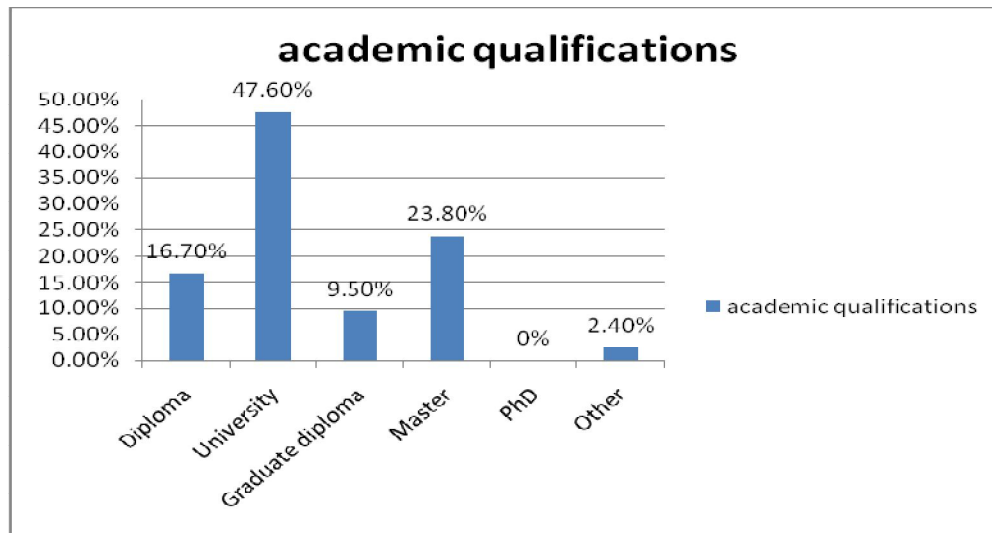
### 3.1.1.2 The Academic Qualifications:

Table (2) and figure (2) Frequency distribution of the study sample according to the academic qualifications (users).

**Table 2: distribution of users according to The Academic Qualifications.**

Academic qualifications	Frequency	Percent
Diploma	7	16.7%
University	20	47.6%
Graduate diploma	4	9.5%
Master	10	23.8%
PhD	0	0%
Other	1	2.4%
<b>Total</b>	<b>42</b>	<b>100.0%</b>

**Figure 2: distribution of users according to The Academic Qualifications.**



**Figure 2: distribution of users according to The Academic Qualifications.**

As shown in Table (2) and figure (2) the majority of the study sample were from the university qualifiers, who numbered (20) and individuals representing a rate of (47.6%) of the total sample, followed by master qualifiers, numbered (10) individuals rated (23.8%) of the total sample, then the diploma qualifiers, totaling (7) individuals rated (16.7%), then the graduated diploma qualifiers, totaling (4) individuals rated

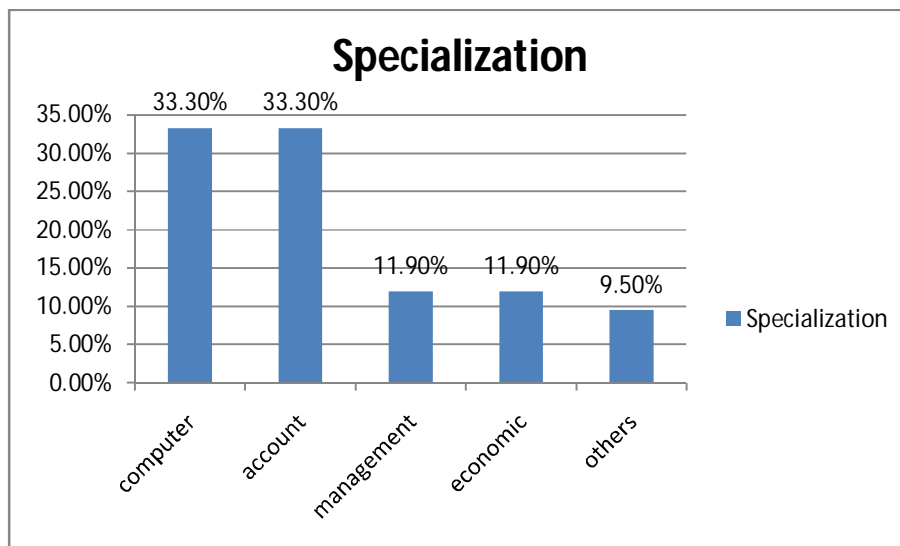
(9.5 %), then the study sample from different academic qualifiers, totaling (1) individuals rated (2.4 %), finally PhD qualifiers, who numbered (0) individuals rated (0.0%) of the total sample.

### 3.1.1.3 The Specialization:

Table (3) and figure (3) Frequency distribution of the study sample according to the *Specialization* (users).

*Table 3: distribution of users according to Specialization*

Specialization	Frequency	Percent
Computer	14	33.3%
Accounting	14	33.3%
Management	5	11.9%
Economics	5	11.9%
Others	4	9.5%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



*Figure 3: distribution of users according to Specialization*

As shown in Table (3) and figure (3) the majority of the study sample were from the computer, who numbered (14) and individuals representing a rate of (33.3%) of the total sample, then followed by account, who numbered (14) individuals rated (33.3%), then the study

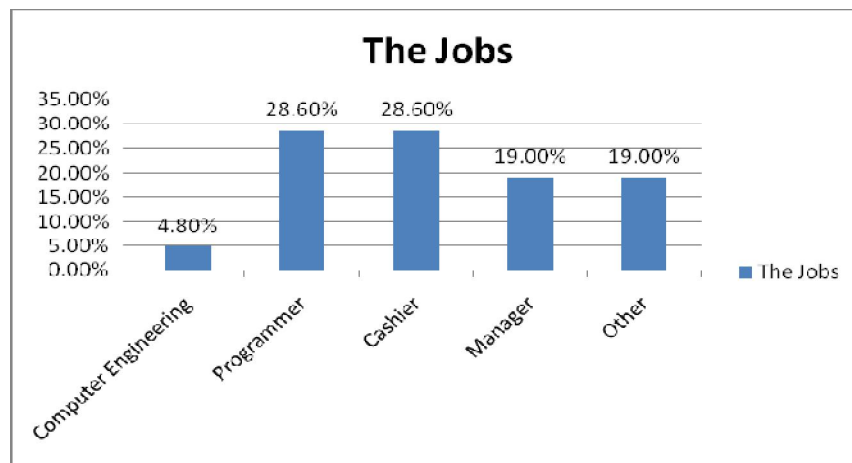
sample management, totaling (5) individuals rated (11.9 %), then the study sample economic, totaling (5) individuals rated (11.9 %), and finally individuals from different specializations, who numbered (4) individuals and rated (9.5%) of the total sample.

### 3.1.1.4 The Jobs:

Table (4) and figure (4) Frequency distribution of the study sample according to the jobs (users).

*Table4: distribution of users according to jobs.*

The Jobs	Frequency	Percent
Computer Engineering	2	4.8%
Programmer	12	28.6%
Cashier	12	28.6%
Manager	8	19.0%
Other	8	19.0%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



*Figure 4: distribution of users according to jobs*

As shown in table (4) and figure (4) the majority of the study sample were from the programmer, who numbered (12) and individuals representing a rate of (28.6%) of the total sample, followed by cashier, as numbered (12) individuals rated (28.6%) , study sample manager, totaling (8) individuals rated(19.0 %), study sample other, totaling (8) individuals

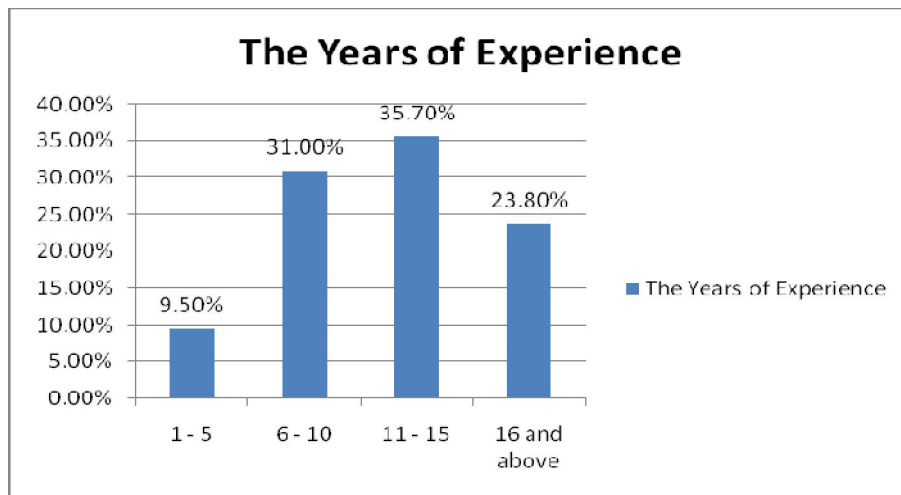
,rated (19.0 %), and finally individuals from computer engineering, who numbered (2) individuals, rated (4.8%) of the total sample.

### ***3.1.1.5 The Years of Experience:***

Table (5) and figure (5) Frequency distribution of the study sample according to the years of experience (users).

***Table 5: distribution of users according to The Years of Experience.***

<b>The Years of Experience</b>	<b>Frequency</b>	<b>Percent</b>
1 - 5	4	9.5%
6 - 10	13	31.0%
11 - 15	15	35.7%
16 and above	10	23.8%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



***Figure 5: distribution of users according to The Years of Experience.***

As shown in Table (5) and figure (5) the majority of the study sample were from the years of experience (11-15), who numbered (15) and individuals representing a rate of (35.7%) of the total sample, followed by (6 - 10), who numbered (13) individuals rated (31.0%), then the study sample 16 and above, totaling (10) individuals rated (23.8 %), and finally individuals from (1 - 5) years of experience, who numbered (4) individuals and rated (9.5%) of the total sample.

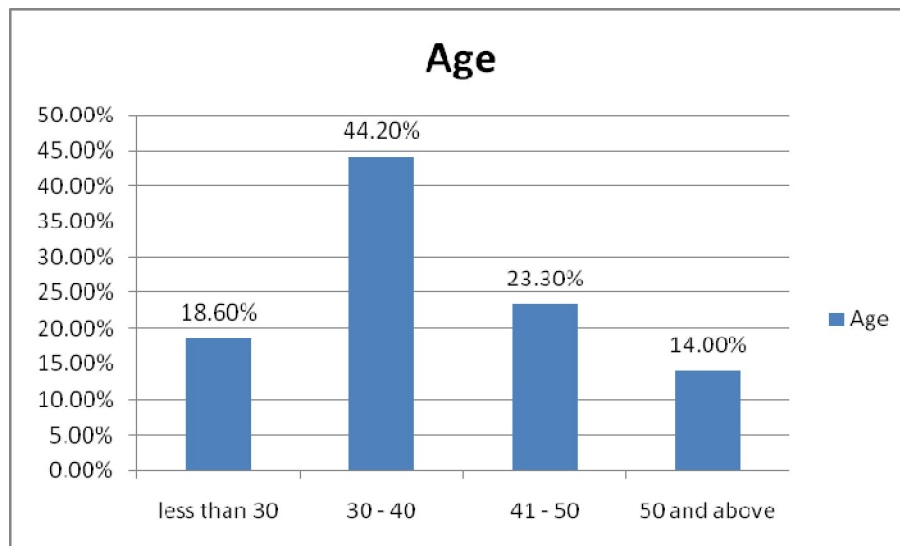
### 3.1.2 Experts:

#### 3.1.2.1 The Age:

Table (6) and figure (6) Frequency distribution of the study sample according to age (experts).

*Table 6: distribution of experts according to age*

Age	Frequency	Percent
less than 30	8	18.6%
30 - 40	19	44.2%
41 - 50	10	23.3%
50 and above	6	14.0%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 6: distribution of experts according to age*

As shown in Table (6) and figure (6) the majority of the study sample were from the group aged (30-40 years), who numbered (19) individuals representing a rate of (44.2%) of the total sample, then followed by group aged (41-50 years), as numbered (10) individuals and ratted (23.3%) , then the study sample aged less than 30 years, totaling (8) individuals and rated (18.6 %), and finally group aged 50 and above years old, who numbered (6) individuals and rated (14.0%) of the total sample.

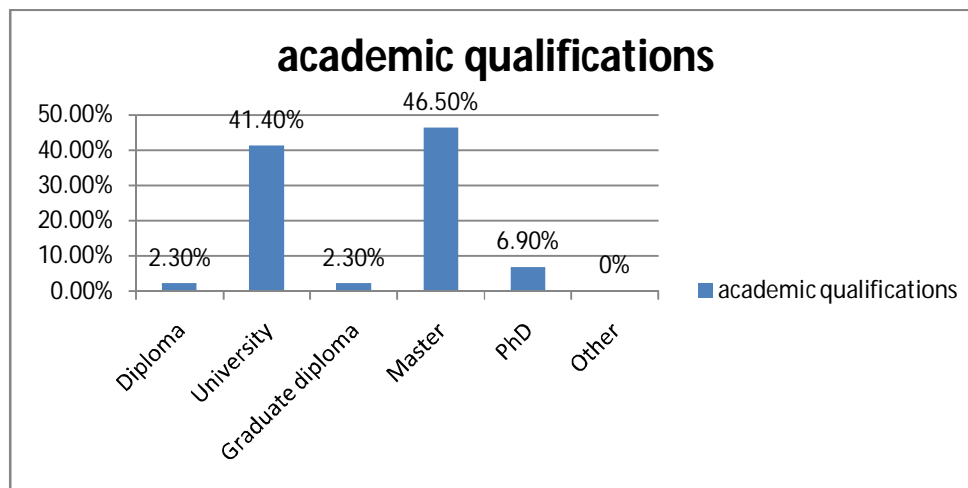


### 3.1.2.2 The Academic Qualifications:

Table (7) and figure (7) Frequency distribution of the study sample according to the academic qualifications (experts).

*Table 7: distribution of experts according to Academic Qualifications*

Academic qualifications	Frequency	Percent
Diploma	1	2.3%
Bachelor	18	41.4%
Graduate diploma	1	2.3%
Master	20	46.5%
PhD	3	6.9%
Other	0	0%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 7: distribution of experts according to Academic Qualifications*

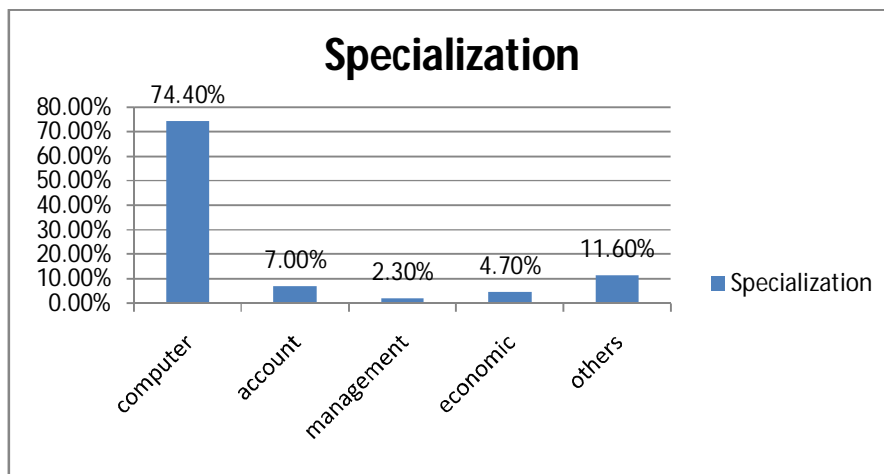
As shown in Table (7) and figure (7) the majority of the study sample were from the university qualifiers, who numbered (20) and individuals representing a rate of (46.5%) of the total sample, followed by master qualifiers, who numbered (20) individuals and rated (46.5%), then the study sample diploma qualifiers, totaling (1) individuals and rated (2.3 %), then the study sample graduate diploma qualifiers, totaling (1) individuals rated (2.3 %), then the study sample from PhD qualifiers , totaling (1) individuals and rated (6.9%), and finally different academic qualifiers, who numbered(0) individuals (0.0%) of the total sample.

### 3.1.2.3 The Specialization:

Table (8) and figure (8) Frequency distribution of the study sample according to the specialized (experts).

*Table 8: distribution of experts according to Specialization.*

Specialization	Frequency	Percent
computer	32	74.4%
accounting	3	7.0%
management	1	2.3%
economics	2	4.7%
others	5	11.6%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 8: distribution of experts according to Specialization.*

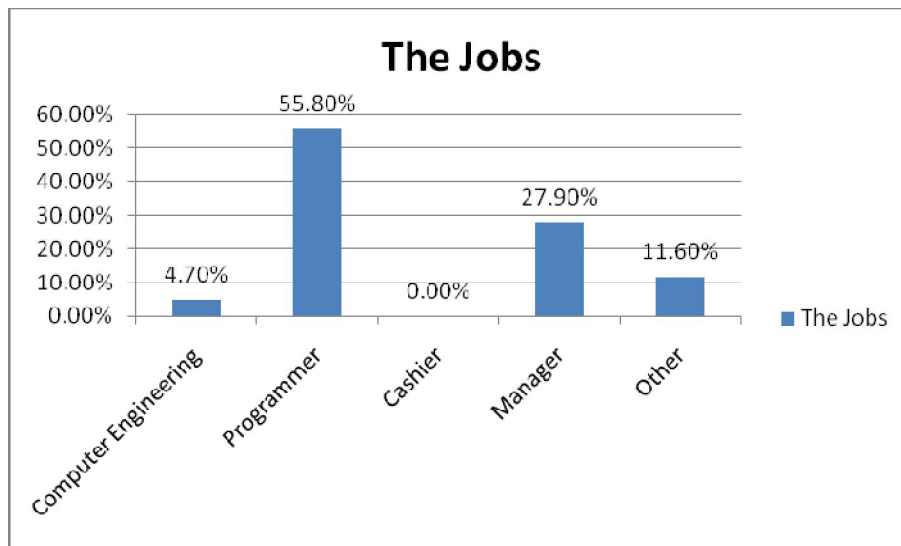
As shown in Table (8) and figure (8) the majority of the study sample were from the computer, who numbered (32) and individuals representing a rate of (74.4%) of the total sample, followed by different specialized, who numbered (5) individuals and rated (11.6%) of the total sample, then the study sample account, totaling (3) individuals and rated (7.0 %), then the study sample economic, totaling (2) individuals and rated(4.7 %), and finally management, who numbered (1) individuals and rated (2.3%) of the total sample.

### 3.1.2.4 The Jobs:

Table (9) and figure (9) Frequency distribution of the study sample according to the jobs (experts).

*Table 9: distribution of experts according to jobs.*

The Jobs	Frequency	Percent
Computer Engineering	2	4.7%
Programmer	24	55.8%
Cashier	0	0.0%
Manager	12	27.9%
Other	5	11.6%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 9: distribution of experts according to Specialization.*

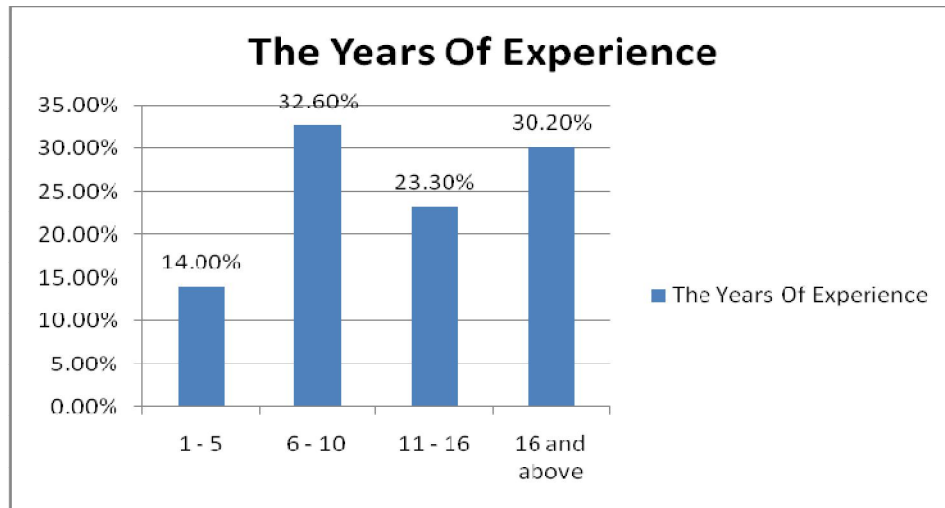
As shown in Table (9) and figure (9) the majority of the study sample were from the programmer, who numbered (24) and individuals representing a rate of (55.8%) of the total sample, and then followed by manager, who numbered (12) individuals and rated (27.9%), then the study sample other, totaling (5) individuals rated (11.6 %), then the study sample computer engineering totaling (2) individuals and rated (4.7%), and finally individuals from cashier, who numbered (0) individuals and rated (0.0%) of the total sample.

### 3.1.2.5 The Years of Experience:

Table (10) and figure (10) Frequency distribution of the study sample according to the years of experience (experts).

*Table 10: distribution of experts according to Years of Experience.*

The Years Of Experience	Frequency	Percent
1 - 5	6	14.0%
6 - 10	14	32.6%
11 - 15	10	23.3%
16 and above	13	30.2%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 10: distribution of experts according to Years of Experience.*

As shown in Table (10) and figure (10) that the majority of the study sample were from the years of experience (6 -10), who numbered (14) and individuals representing a rate of (32.6%) of the total sample, followed by 16 and above, who numbered (13) individuals and rated (30.2%) of the total sample, then the study sample (11 - 16), totaling (10) individuals and rated (23.3 %), and finally individuals from (1 - 5) years of experience, who were (6) individuals and rated (14.0%) of the total sample.

### ***3.2.0 The study tool:***

Search tool was a mean by which the researcher gathers the necessary information about the phenomenon under study. There were many tools used in the field of scientific research to get the necessary information and data for the study. Here the researcher adopted the questionnaire study sample as a tool for collecting information to the advantages given by the questionnaire as follows:

- 1 - Can be applied to obtain information on the number of individuals.
- 2 - Lack of cost and ease of application.
- 3 - Easy to put and choose its words.
- 4 - Provides questionnaire responder enough time enough and give him a chance to think.
- 5 - Respondents feel free to express disapproval of the views of others without fear them.

(Saad,Z.2003).

### ***3.2.1 Questionnaire Description:***

The first part contains the personal data about the study sample, the age, educational qualification, specialties, jobs, and the years of experience.

The second part: contains a number of (13) phrases serve (8) questions about the (user) and a number of (31) phrases serve (16) questions about the (experts), asks the study sample members to determine their response about what calls each statement on a scale of Likert Gradient, which is consisted three levels (agree, neutral, disagree) (Saad,Z.2003).

### ***3.2.2 The used statistical methods***

To achieve the study objectives and answer the questions will use the following statistical methods:

- 1 - graphic formats.
- 2 - Frequency distribution of the answers.
- 3 - Percentages.
- 5 - The arithmetic mean.
- 7 - Chi-square test for the significance of differences between the answers.

To obtain the results as accurate as possible, we use SPSS statistical software, which indicates an abbreviation to the Statistical Package for the Social Sciences, as we use Excel for the implementation of the program graphics required in the study(Saad,Z.2003).

### ***3.2.3 Application tool study.***

A confirmed honestly the researcher should distribute the questionnaires to a sample study as assessed (42) users and (43) experts individuals, as he has to notice necessitated operations of emptying and unloading the data and information in the prepared diagrams and tables prepared by the researcher for this purpose, which has been converted from nominal variables (agree, neutral, disagree) to the quantitative variables (3, 2, and 1).

### 3.3.0 The research questions (users):

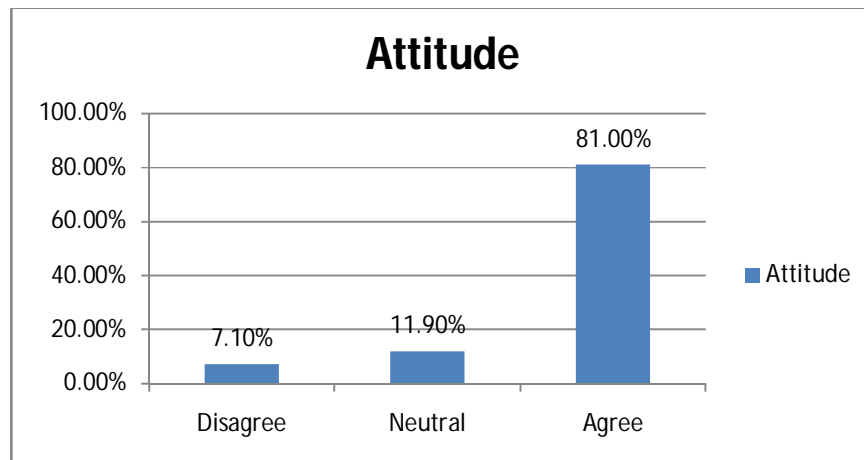
**1-The sentence of question one** (*Is outsourcing software development in conformity with the required specification?*).

**The first Sentence** (you or one of your colleagues are involved in determining the requirements for the new system).

Table (11) and figure (11) frequency distribution of the answer of the first sentence.

*Table 11: Responses for the first sentence of Question 1.*

Attitude	Frequency	Percent
Disagree	3	7.1%
Neutral	5	11.9%
Agree	34	81.0%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



*Figure 11: figure 11 Responses for the first sentence of Question 1.*

As shown in Table (11) and figure (11) the majority of the study sample numbered (34) agreed with the sentence, and individuals representing a rate of (81.0%) of the total sample, followed by individuals whom Neutral with the sentence numbered (5), and rated (11.9%), and finally individuals whom disagreed with the sentence numbered (3) and rated (7.9%) from the total sample.

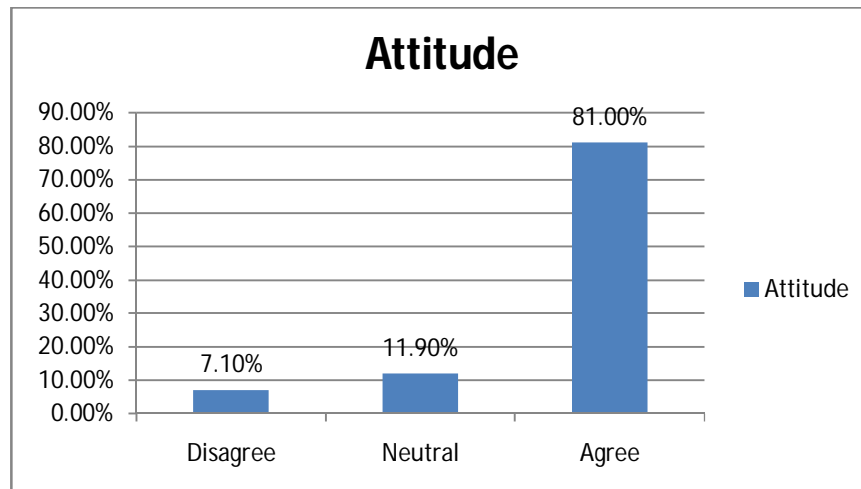
**2-The the sentence of question two (Did the failure of outsourcing software development resulted from the weak specification of requirement?).**

**The first Sentence** (you or one of your colleagues were involved in determining the requirements for the new system?).

Table (12) and figure (12) frequency distribution of the answer of the first sentence.

**Table 12: Responses for the first sentence of Question 2.**

Attitude	Frequency	Percent
Disagree	3	7.1%
Neutral	5	11.9%
Agree	34	81.0%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



**Figure 12: Responses for the first sentence of Question 2.**

As shown in Table (12) and figure (12) the majority of(34) from the study sample were agreed with the sentence, and individuals representing a rate of (81.0%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (5), and rated (11.9%), and finally individuals whom numbered (3) disagreed with the sentence and rated (7.9%) from total sample.



**3- The sentence of question three** (*clarify if failure of outsourcing software development was a result of decision or implementation process?*).

- 1 - Blurred system usability (language, windows, screen congestion and windows sequence).
- 2 - Did not meet all the requirements of the work.
- 3 - Output incompletes and did not match the considerable need work.
- 4 - Technical faults and technical problems.
- 5 - There was no enough training.
- 6 - High cost.
- 7 - Did not add additional value (of no use).

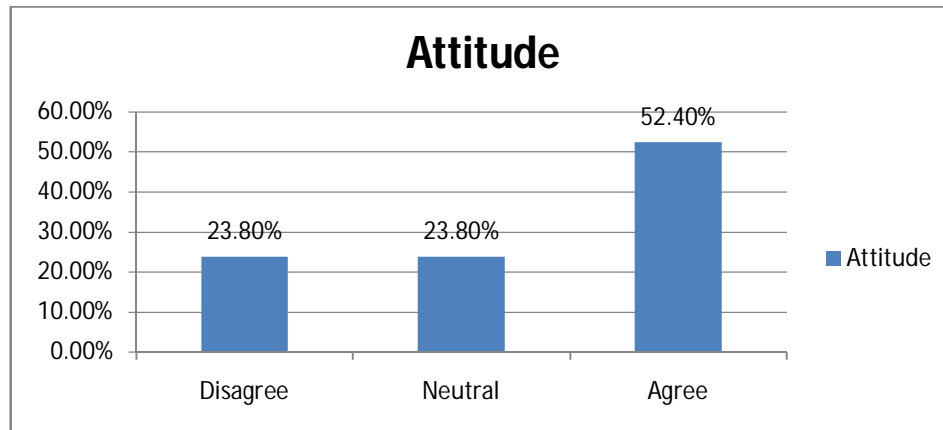
**4-The sentence of question four** (*what was the ability of contract of outsourcing software development to handling change?*)

**The first sentence** (*Due to the changes in policies requirements change (as well as particular requirement concerning you) in that case is the response appropriate?*).

Table (13) and figure (13) frequency distribution of the answer of the first sentence.

**Table 13: Responses for the first sentence of Question 4.**

<b>Attitude</b>	<b>Frequency</b>	<b>Percent</b>
Disagree	10	23.8%
Neutral	10	23.8%
Agree	22	52.4%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



**Figure 13: Responses for the first sentence of Question 4.**

As shown in Table (13) and figure (13) the majority numbered (22) of the study sample were agreed with the sentence, and individuals representing a rate of (52.4%) of the total sample, and then followed by individuals whom Neutral with the sentence who numbered (10), and rated (23.8%) of the total sample, and finally individuals whom disagreed with the sentence numbered (10) and rated (23.8%) from total sample.

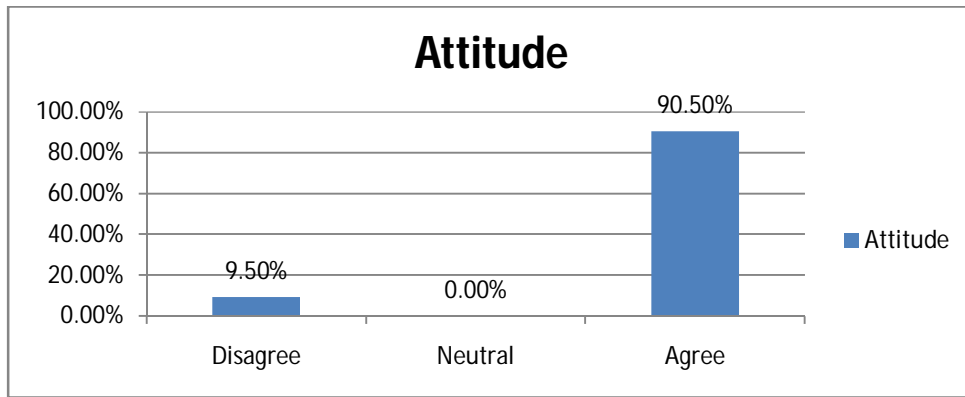
**5-The sentence of question five** (*explain if organization cares of manual mode for users guideline?*).

**The first sentence** (It is important that there is a user's manual for user guidance?).

Table (14) and figure (14) frequency distribution of the answer of the first sentence.

**Table 14: Responses for the first sentence of Question 5.**

Attitude	Frequency	Percent
Disagree	4	9.5%
Neutral	0	0.0%
Agree	38	90.5%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



**Figure 14: Responses for the first sentence of Question 5.**

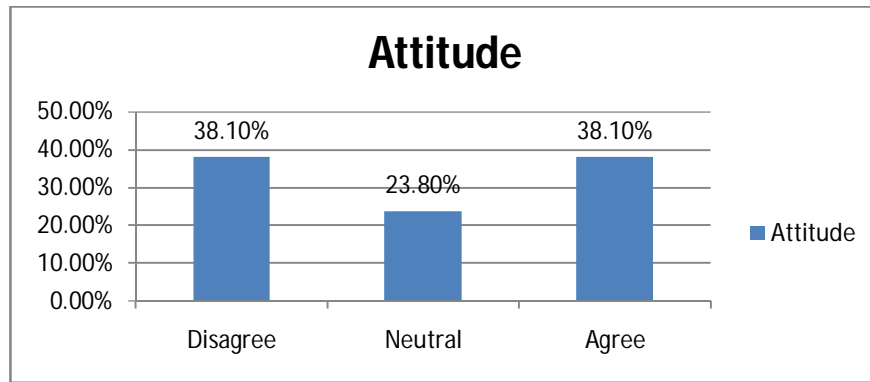
As shown in Table (14) and figure (14) the majority numbered (38) of the study sample were agreed with the sentence, and individuals representing a rate of (90.5%) of the total sample, and then followed by individuals whom disagreed with the sentence numbered (4) and rated (9.5%). and finally individuals whom Neutral with the sentence who numbered (0), and rated (0.0%) of the total sample.

**The second sentence** (Is there a user manual for guiding user?)

Table (15) and figure (15) frequency distribution of the answer of the second sentence.

**Table 15: Responses for the second sentence of Question 5.**

Attitude	Frequency	Percent
Disagree	16	38.1%
Neutral	10	23.8%
Agree	16	38.1%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



**Figure 15: Responses for the second sentence of Question 5.**

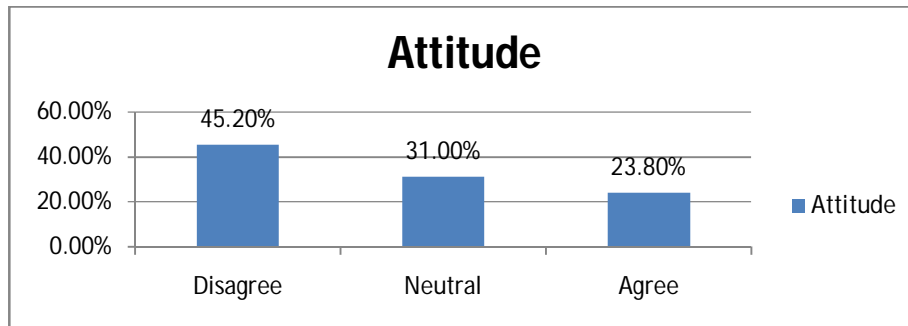
As shown in Table (15) and figure (15) the majority numbered (16) of the study sample were agreed with the sentence, individuals representing a rate of (38.1%) of the total sample, and then followed by individuals whom disagreed with the sentence who numbered (16) and rated (38.1%). and finally individuals whom Neutral with the sentence who numbered (10), and rated (23.8%) of the total sample.

**The third sentence** (When you experience a problem do you find a solution in the user manual?).

Table (16) and figure (16) frequency distribution of the answer of the third sentence:

**Table 16: Responses for the third sentence of Question 5.**

Attitude	Frequency	Percent
Disagree	19	45.2%
Neutral	13	31.0%
Agree	10	23.8%
Total	42	100.0%



**Figure 16: Responses for the third sentence of Question 5.**

As shown in Table (16) and figure (16) the majority numbered (19) of the study sample were disagreed with the sentence and individuals representing a rate of (45.2%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (13), and rated (31.0%), and finally individuals whom agreed with the sentence who numbered (10) and rated (23.8%) from total sample.

**The following is the frequency distribution of the all sentences of the question five:**

**Table 17: total of question five**

Attitude	Frequency	Percent
Disagree	39	30.9%
Neutral	23	18.2%
Agree	64	50.9%
<b>Total</b>	<b>126</b>	<b>100.0%</b>

As shown in the Table above , the majority , numbered (64)of the study sample were agreed with the sentence and individuals representing a rate of (50.9%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (39), rated (30.9%), and finally individuals whom Neutral with the sentence who numbered (23) rated (18.2%) from the total sample.

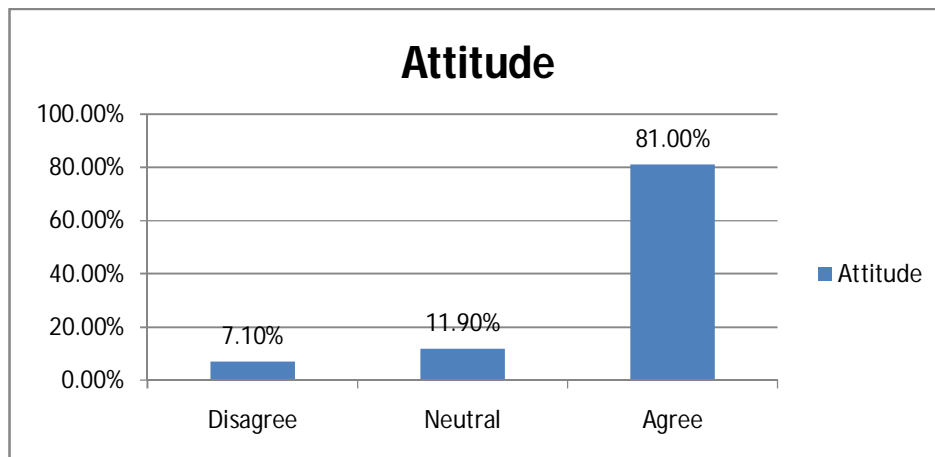
**6-The sentence of question six** (clarify the extent of attention the organization of end users and usability of the system?).

**The first sentence** (you or one of your colleagues were involved in determining the requirements for the new system?).

Table (18) and figure (17) frequency distribution of the answer of the first sentence.

**Table 18: Responses for the first sentence of Question 6.**

Attitude	Frequency	Percent
Disagree	3	7.1%
Neutral	5	11.9%
Agree	34	81.0%
Total	42	100.0%



**Figure 17: Responses for the first sentence of Question 6.**

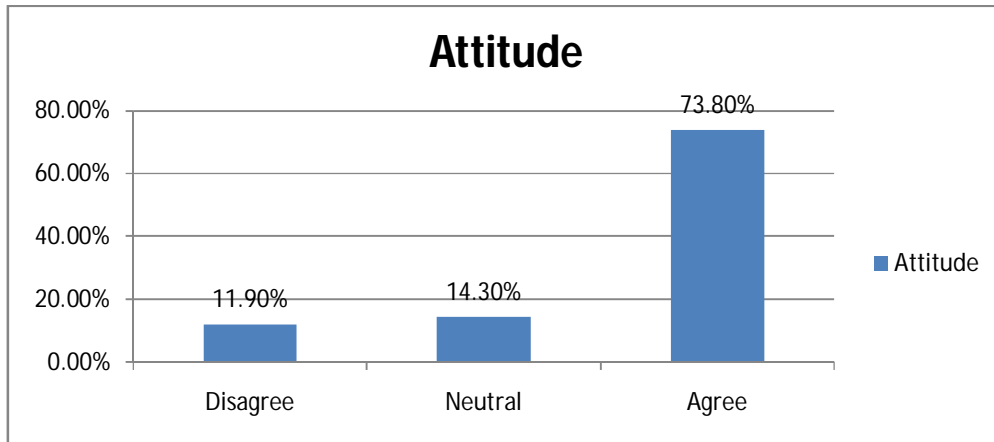
As shown in Table (18) and figure (17) the majority numbered (34) of the study sample were agreed with the sentence, and individuals representing a rate of (81.0%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (5), rated (11.9%), and finally individuals whom disagree with the sentence where numbered (3) and (7.9%) from the total sample.

**The second sentence** (Is the new system clear in terms of (language, congested screens, and the sequence of windows?)).

Table (19) and figure (18) frequency distribution of the answer of the second sentence.

*Table 19: Responses for the second sentence of Question 6.*

Attitude	Frequency	Percent
Disagree	5	11.9%
Neutral	6	14.3%
Agree	31	73.8%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



*Figure 18: Responses for the second sentence of Question 6.*

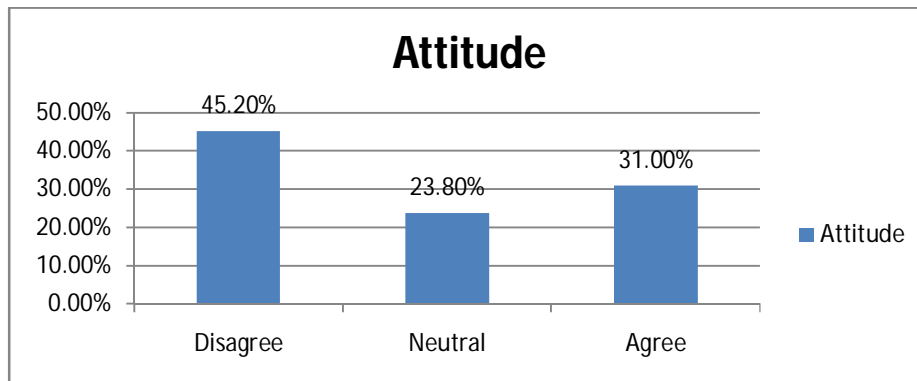
As shown in Table (19) and figure (18) the majority numbered (31) of the study sample were agreed with the sentence, and individuals representing a rate of (73.8%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (6), rated (14.3%), and finally individuals whom disagreed with the sentence who numbered (5) rated (11.9%) from the total sample

**The third sentence** (Were you trained properly on the new system?).

Table (20) and figure (19) frequency distribution of the answer of the third sentence.

**Table 20: Responses for the third sentence of Question 6.**

Attitude	Frequency	Percent
Disagree	19	45.2%
Neutral	10	23.8%
Agree	13	31.0%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



**Figure 19: Responses for the third sentence of Question 6.**

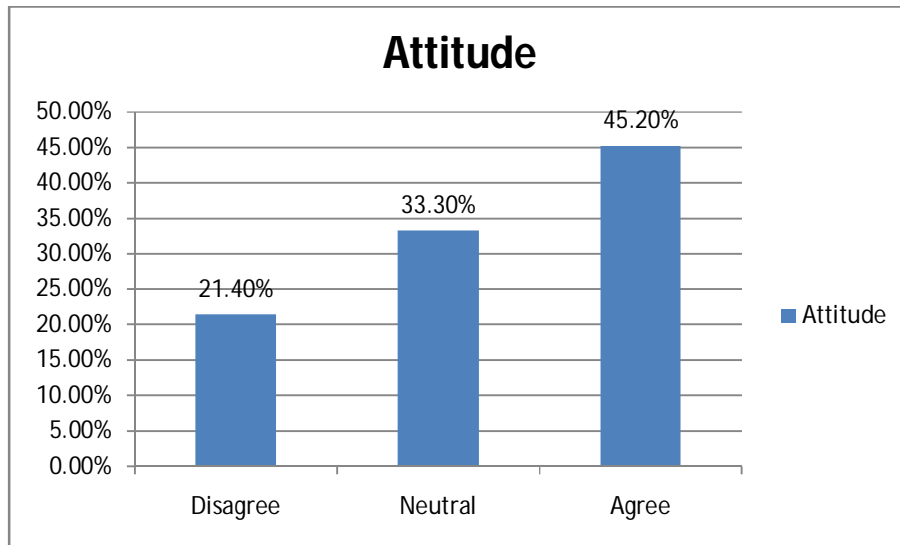
As shown in Table (20) and figure (19) the majority numbered (19) of the study sample were disagreed with the sentence, and individuals representing a rate of (45.2%), followed by individuals whom agreed with the sentence who numbered (13) rated (31.0%). and finally individuals whom Neutral with the sentence who numbered (10), rated (23.8%) of the total sample

**The fourth sentence** (Is the new system simple?). Table (21) and figure (20) frequency distribution of the answer of the fourth sentence.

**Table 21: Responses for the fourth sentence of Question 6.**

Attitude	Frequency	Percent
Disagree	9	21.4%
Neutral	14	33.3%
Agree	19	45.2%
<b>Total</b>	<b>42</b>	<b>100.0%</b>





**Figure 20: Responses for the fourth sentence of Question 6.**

As shown in Table (21) and figure (20) the majority numbered (19) of the study sample were agreed with the sentence, and individuals representing a rate of (45.2%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (14), rated (33.3%), and finally individuals whom disagreed with the sentence who numbered (9) and rated (21.4%) from the total sample.

***The following is the frequency distribution of the all sentences of the question six:***

**Table: 22 total of question six.**

Attitude	Frequency	Percent
Disagree	36	21.4%
Neutral	35	20.8%
Agree	97	57.8%
<b>Total</b>	<b>168</b>	<b>100.0%</b>

As shown in the Table above the majority numbered (97) of the study sample were agreed with the sentence, and individuals representing a rate of (57.8%) of the total sample, followed by individuals whom

disagreed with the sentence who numbered (36), rated (21.4%) of the total sample, and finally individuals whom Neutral with the sentence who numbered (35) and rated (20.8%) from the total sample.

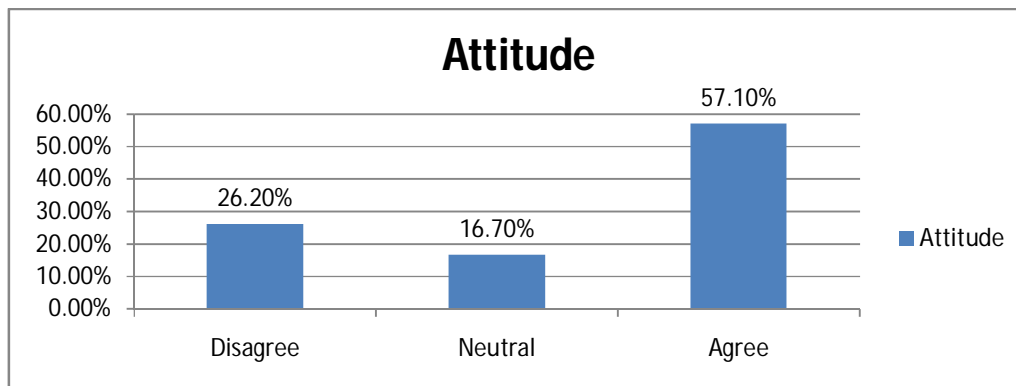
**7-The sentence of question seven** (*Are the users understood the technical problems and how to deal with them?*)

**The first sentence** (technical problems you face were taken care of?)

Table (23) and figure (21) frequency distribution of the answer of the first sentence.

*Table 23: Responses for the first sentence of Question 7.*

Attitude	Frequency	Percent
Disagree	11	26.2%
Neutral	7	16.7%
Agree	24	57.1%
<b>Total</b>	<b>42</b>	<b>100.0%</b>



*Figure 21: Responses for the first sentence of Question 7.*

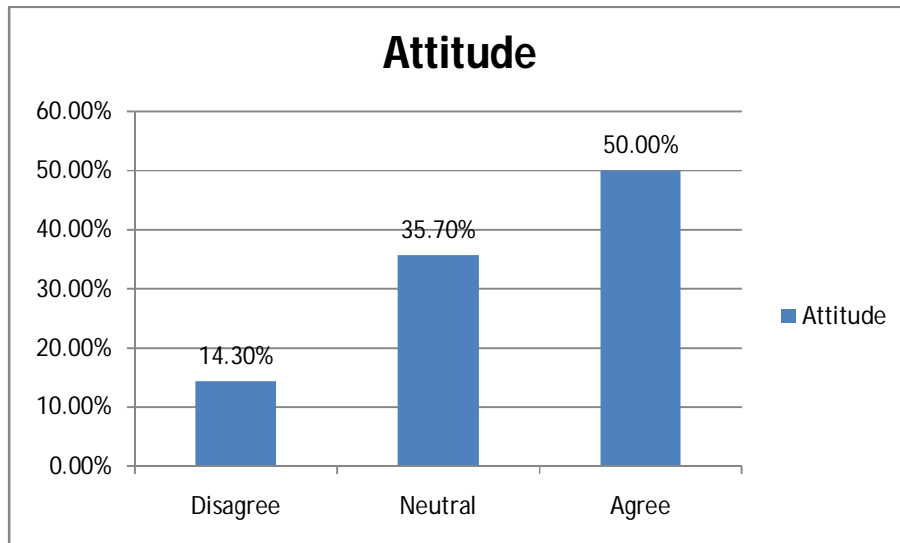
As shown in Table (23) and figure (21) the majority numbered (24) of the study sample were agreed with the sentence, and individuals representing a rate of (57.1%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (11), rated (26.2%), and finally individuals whom Neutral with the sentence who numbered (7) rated (16.7%) from the total sample.

**The second sentence** (Did the system stop for reasons other than electricity and network, i.e for a technical problem.).

Table (24) and figure (22) frequency distribution of the answer of the first sentence

**Table 24: Responses for the second sentence of Question 7**

Attitude	Frequency	Percent
Disagree	6	14.3%
Neutral	15	35.7%
Agree	21	50.0%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 22: Responses for the second sentence of Question 7.**

As shown in Table (24) and figure (22) the majority numbered (19) of the study sample were agreed with the sentence, and individuals representing a rate of (50.0%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (14), rated (35.7%), and finally individuals whom disagreed with the sentence who numbered (9) rated (14.30%) from the total sample.

*The following is the frequency distribution of the all sentences of the question seven.*

*Table: 25 total of question seven.*

Attitude	Frequency	Percent
Disagree	17	20.2%
Neutral	22	26.1%
Agree	45	53.7%
<b>Total</b>	<b>84</b>	<b>100.0%</b>

As shown in the Table above that the majority numbered (45) of the study sample were agreed with the sentence, and individuals representing a rate of (53.7%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (22), and (26.1%) of the total sample, and finally individuals whom disagreed with the sentence who numbered (17) rated (20.2%) from the total sample.

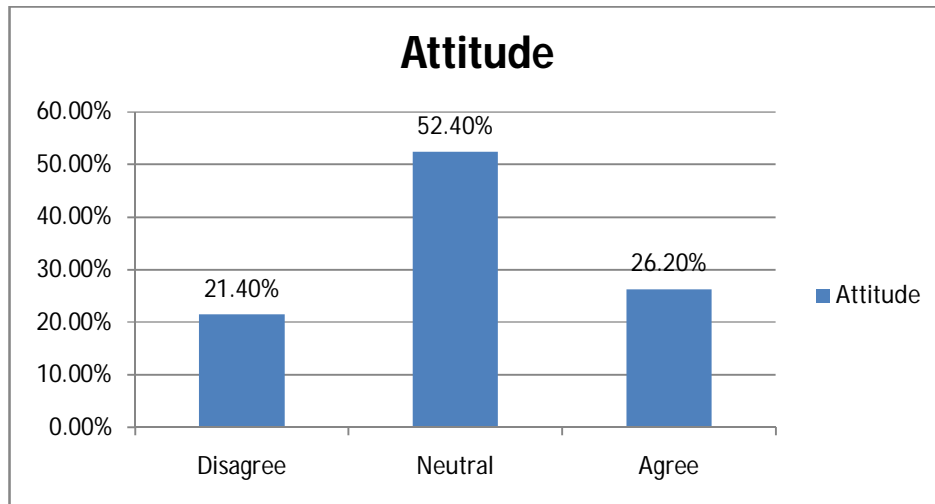
*8-The sentence of a question eight (what are the reasons that make the experiment of outsourcing software development successful in Sudan and what are the differences between software produced within Sudan and produced outside Sudan ).*

**The first sentence** (Do you consider the outsourcing systems successful and is it meeting your requirements.).

Table (26) and figure (23) frequency distribution of the answer of the first sentence.

*Table 26: Responses for the first sentence of Question 8*

Attitude	Frequency	Percent
Disagree	9	21.4%
Neutral	22	52.4%
Agree	11	26.2%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 23: Responses for the first sentence of Question 8.**

As shown in Table (26) and figure (23) the majority numbered (22) of the study sample were Neutral with the sentence, and individuals representing a rate of (52.4%) of the total sample, followed by individuals whom agreed with the sentence who numbered (11), rated (26.2%), and finally individuals whom disagreed with the sentence who numbered (9) and (21.40%) from total sample.

### **3.3.1 The research questions (experts):**

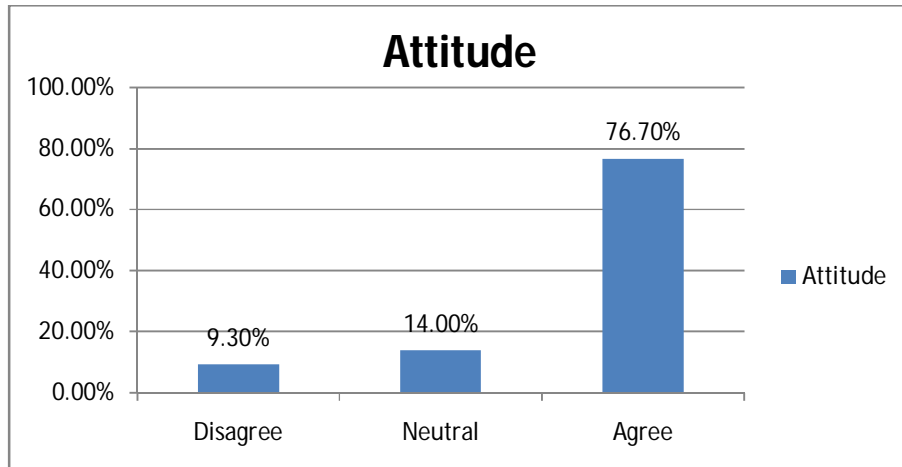
*1-The sentence of a question one (Does the organization use outsourcing and take into account the risks?).*

**The first Sentence** (The organization takes the risks into account when applying outsourcing software development).

Table (27) and figure (24) frequency distribution of the answer of the first sentence

**Table 27: Responses for the first sentence of Question 1**

Attitude	Frequency	Percent
Disagree	4	9.3%
Neutral	6	14.0%
Agree	33	76.7%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 24: Responses for the first sentence of Question 1.**

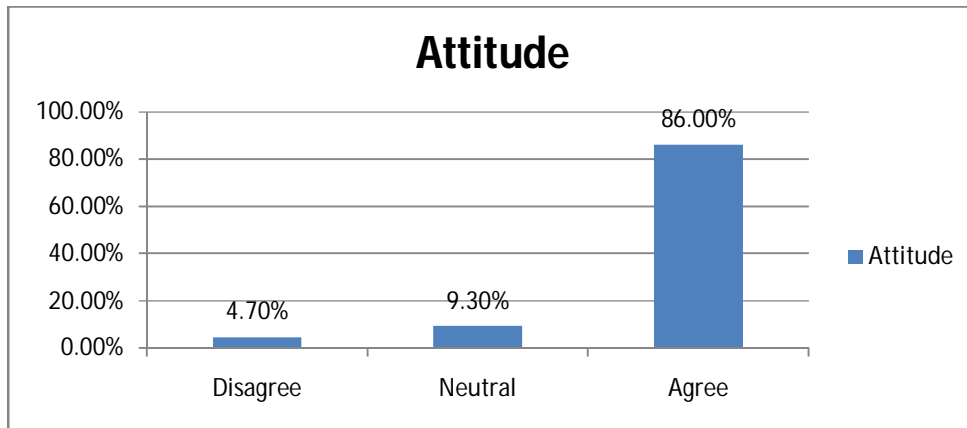
As shown in Table (27) and figure (24) the majority numbered (33) of the study sample were agreed with the sentence, and individuals representing a rate of (76.6%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (6), rated (14.0%), and finally individuals whom disagreed with the sentence who numbered (3) rated (9.4%) from the total sample .

**The second Sentence** (In the case of application outsourcing software development Considering the advantage and disadvantage of the application?

Table (28) and figure (25) frequency distribution of the answer of the second sentence.

**Table 28: Responses for the second sentence of Question 1**

Attitude	Frequency	Percent
Disagree	2	4.7%
Neutral	4	9.3%
Agree	37	86.0%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 25: Responses for the second sentence of Question 1.**

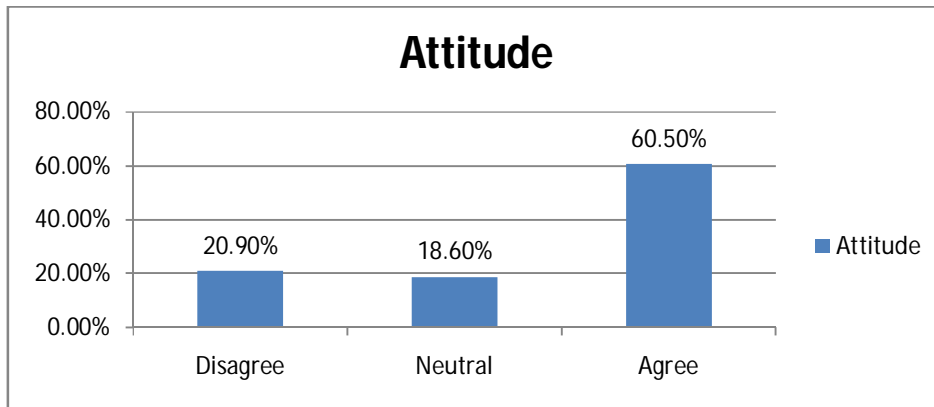
As shown in Table (28) and figure (25) the majority numbered (37) of the study sample were agreed with the sentence, and individuals representing a rate of (86.0%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (4), rated (9.3%) of the total sample, and finally individuals whom disagreed with the sentence who numbered (2) and (4.7%) from total sample.

**The third Sentence** (the loss of programmers with expertise and skills is taken into account in the case of outsourcing software development).

Table (29) and figure (26) frequency distribution of the answer of the third sentence.

**Table 29: Responses for the third sentence of Question 1**

Attitude	Frequency	Percent
Disagree	9	20.9%
Neutral	8	18.6%
Agree	26	60.5%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 26: Responses for the third sentence of Question 1.**

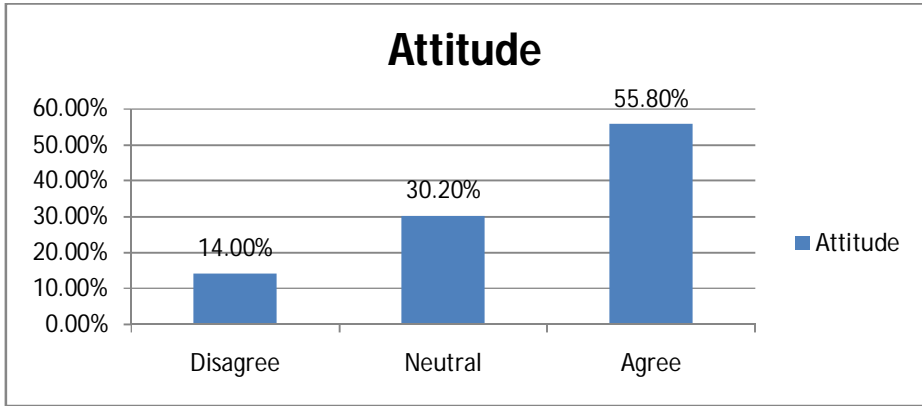
As shown in Table (29) and figure (26) the majority numbered (26) of the study sample were agreed with the sentence, and individuals representing a rate of (60.5%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (9), rated (30.9%), and finally individuals whom Neutral with the sentence who numbered (8) and (18.6%) from total sample.

**The fourth Sentence** (There is a guarantee for the transfer of new knowledge and experiences when outsourcing software development). Table (30) and figure (27) frequency distribution of the answer of the fourth sentence.

**Table 30: Responses for the fourth sentence of Question 1**

Attitude	Frequency	Percent
Disagree	6	14.0%
Neutral	13	30.2%
Agree	24	55.8%
<b>Total</b>	<b>43</b>	<b>100.0%</b>





**Figure 27: Responses for the fourth sentence of Question 1.**

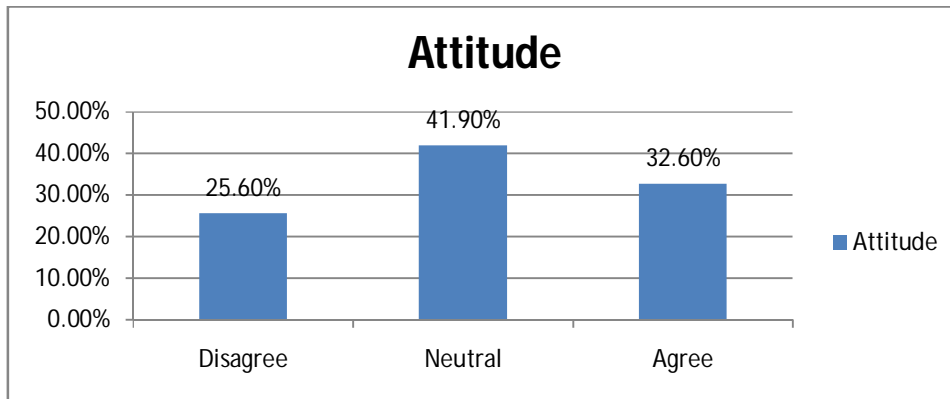
As shown in Table (30) and figure (27) the majority numbered (24) of the study sample were agreed with the sentence, and individuals representing a rate of (55.8%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (13), rated (30.9%) of the total sample, and finally individuals whom disagreed with the sentence who numbered (6) rated (14.0%) from the total sample.

**The fifth Sentence** (Is there any flexibility in the contract , is the contract Negotiable for change With policy change.).

Table (31) and figure (28) frequency distribution of the answer of the fifth sentence.

**Table 31: Responses for the fifth sentence of Question 1**

Attitude	Frequency	Percent
Disagree	11	25.6%
Neutral	18	41.9%
Agree	14	32.6%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



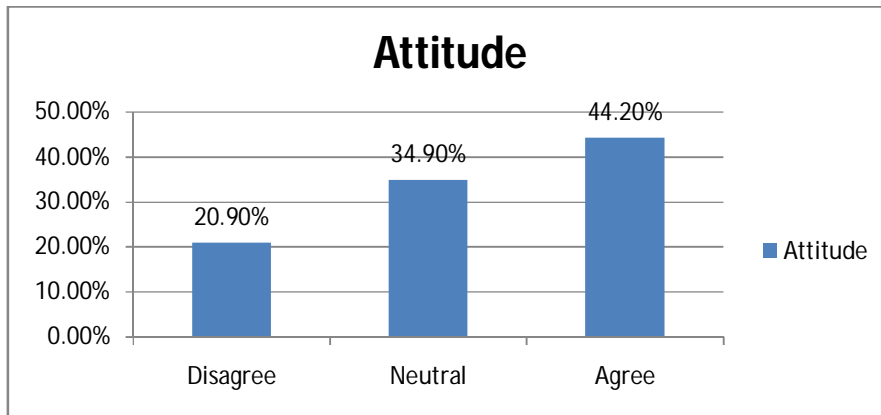
**Figure 28: Responses for the fifth sentence of Question 1.**

As shown in Table (31) and figure (28) the majority numbered (18) of the study sample were Neutral with the sentence, and individuals representing a rate of (41.9%) of the total sample, and then followed by individuals whom agreed with the sentence who numbered (14), and rated (32.6%), and finally individuals whom disagreed with the sentence who numbered (11) and rated(25.6%) from the total sample.

**The six Sentences** (Is the assistant of consultants and specialists to write contract and to delivery and handover). Table (32) and figure (29) frequency distribution of the answer of the six sentence.

**Table 32: Responses for the sixth sentence of Question 1**

Attitude	Frequency	Percent
Disagree	9	20.9%
Neutral	15	34.9%
Agree	19	44.2%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 29: Responses for the sixth sentence of Question 1.**

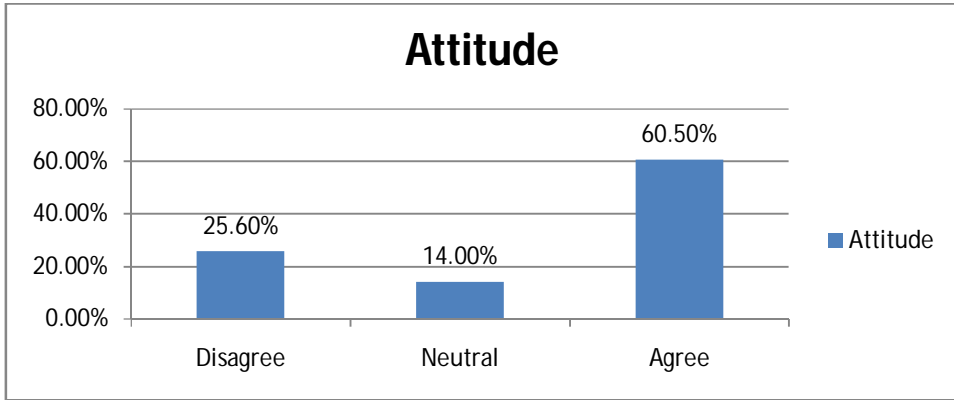
As shown in Table (32) and figure (29) the majority numbered (18) of the study sample were agreed with the sentence, and individuals representing a rate of (44.2%) of the total sample, followed by individuals who were neutral with the sentence who numbered (14), and rated (34.9%), and finally individuals who disagreed with the sentence who numbered (11) and rated (20.9%) from total sample.

**The seventh Sentence** (Is there a specific software standards for the selection of software that ensure its success).

Table (33) and figure (30) frequency distribution of the answer of the seventh sentence.

**Table 33: Responses for the seventh sentence of Question 1**

Attitude	Frequency	Percent
Disagree	11	25.6%
Neutral	6	14.0%
Agree	26	60.5%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 30: Responses for the seventh sentence of Question 1.**

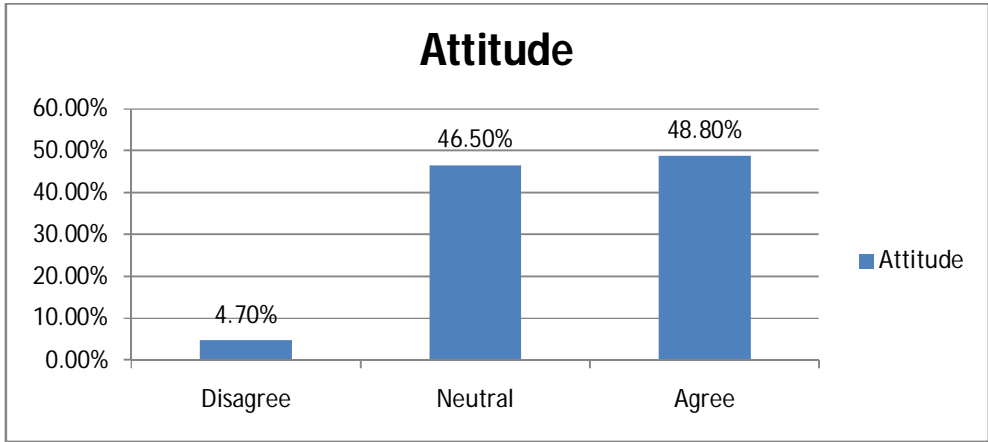
As shown in Table (33) and figure (30) the majority numbered (26) of the study sample we agreed with the sentence, and individuals representing a rate of (60.5%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (11), and rated (25.6%), and finally individuals whom Neutral with the sentence who numbered (6) and rated (14.0%) from total sample.

**The eighth Sentence** (are there any obstacles occurred during outsourcing software development).

Table (34) and figure (31) frequency distribution of the answer of the eighth sentence.

**Table 34: Responses for the eighth sentence of Question 1**

Attitude	Frequency	Percent
Disagree	2	4.7%
Neutral	20	46.5%
Agree	21	48.8%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 31: Responses for the eighth sentence of Question 1.**

As shown in Table (34) and figure (31) the majority numbered (21) of the study sample were agreed with the sentence, and individuals representing a rate of (48.8%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (20), and rated (46.5%), and finally individuals whom Neutral with the sentence who numbered (2) and rated (4.7%) from the total sample.

**The following is the frequency distribution of the all sentences of the question one:**

**Table 35: Responses for the first sentence of Question 8**

Attitude	Frequency	Percent
Disagree	54	15.6%
Neutral	90	26.1%
Agree	200	58.3%
<b>Total</b>	<b>344</b>	<b>100.0%</b>

As shown in the Table above the majority numbered (200) of the study sample were agreed with the sentence, and individuals representing a rate of (58.3%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (90), and rated (26.1%), and finally individuals whom disagreed with the sentence who numbered (54) and rated (15.6%) from the total sample.

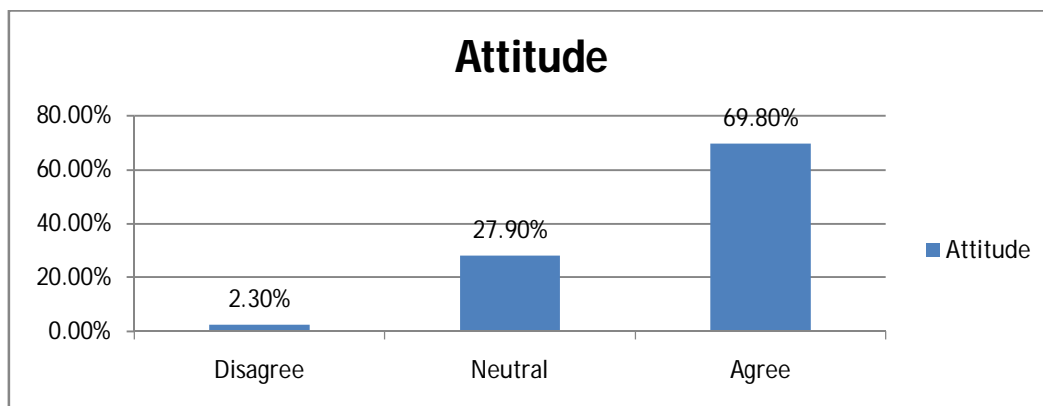
**2-The sentence of a question two** (does the organization find a partner that trust and establish contract model that make sense?)

**The first Sentence** (The obstacles are taking into account when outsourcing software development).

Table (36) and figure (32) frequency distribution of the answer of the first sentence.

**Table 36: Responses for the first sentence of Question 2**

Attitude	Frequency	Percent
Disagree	1	2.3%
Neutral	12	27.9%
Agree	30	69.8%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 32: Responses for the first sentence of Question 2.**

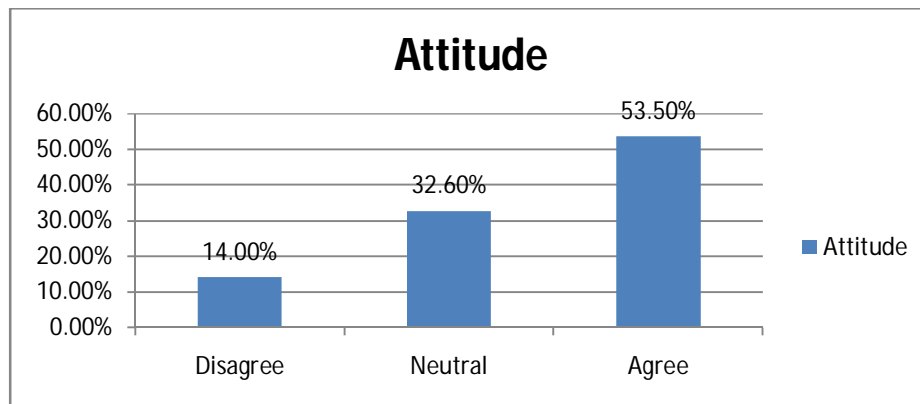
As shown in Table (36) and figure (32) the majority numbered (30) of the study sample were agreed with the sentence, and individuals representing a rate of (69.8%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (12), and rated (27.9%), and finally individuals whom disagreed with the sentence who numbered (1) and (2.3%) from total sample.

**The second Sentence** (Are Specifications specified clearly in the contract).

Table (37) and figure (33) frequency distribution of the answer of the second sentence.

*Table 37: Responses for the second sentence of Question 2*

Attitude	Frequency	Percent
Disagree	6	14.0%
Neutral	14	32.6%
Agree	23	53.5%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 33: Responses for the second sentence of Question 2.*

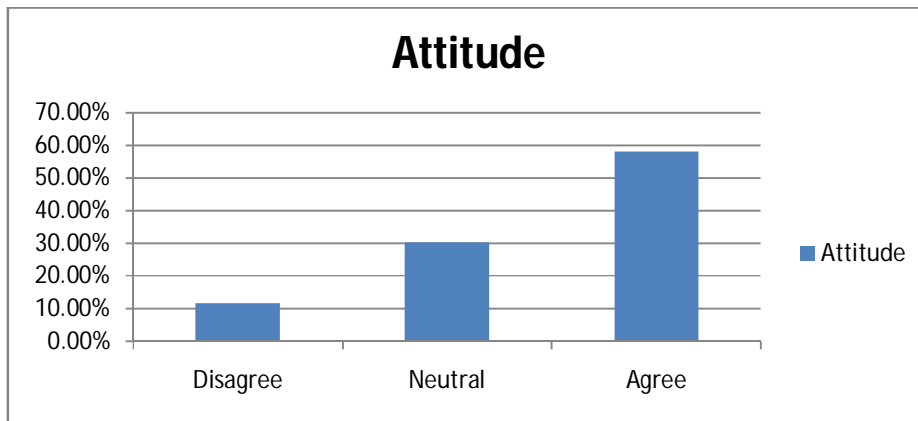
As shown in Table (37) and figure (33) the majority numbered (23) of the study sample were agreed with the sentence, and individuals representing a rate of (53.5%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (14), and rated (32.6%), and finally individuals whom disagreed with the sentence who numbered (6) and rated (14.00%) from the total sample.

**The third Sentence** (Is there a clear time frame for Delivery and handover).

Table (38) and figure (34) frequency distribution of the answer of the third sentence.

**Table 38: Responses for the third sentence of Question 2**

Attitude	Frequency	Percent
Disagree	5	11.6%
Neutral	13	30.2%
Agree	25	58.1%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 34: Responses for the third sentence of Question 2.**

As shown in Table (38) and figure (34) the majority numbered (25) of the study sample were agreed with the sentence, and individuals representing a rate of (58.1%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (13), and rated (30.2%), and finally individuals whom disagreed with the sentence who numbered (5) and rated (11.00%) from the total sample.

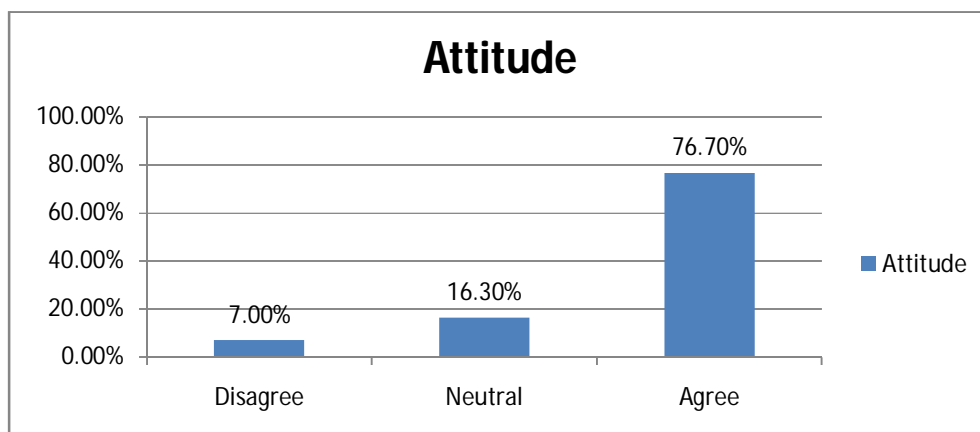
**The fourth Sentence** (Is there a paragraph in the contract addressing maintenance).

Table (39) and figure (35) frequency distribution of the answer of the fourth sentence.



**Table 39: Responses for the fourth sentence of Question 2**

Attitude	Frequency	Percent
Disagree	3	7.0%
Neutral	7	16.3%
Agree	33	76.7%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 35: Responses for the fourth sentence of Question 2.**

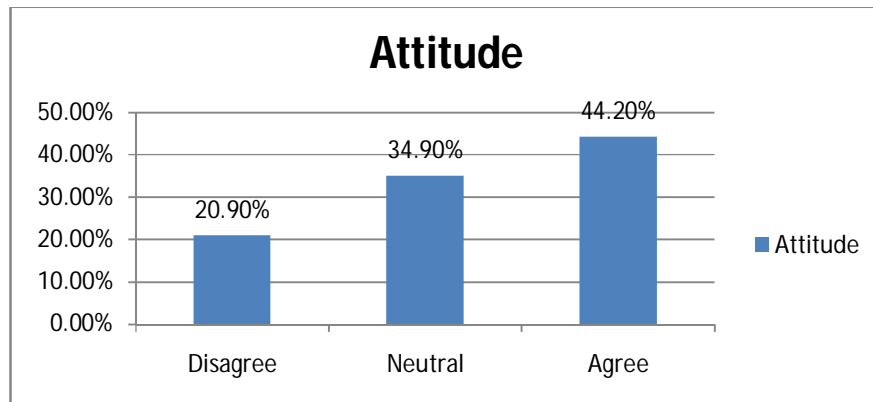
As shown in Table (39) and figure (35) the majority numbered (33) of the study sample were agreed with the sentence, and individuals representing a rate of (76.7%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (7), and rated (16.3%), and finally individuals whom disagreed with the sentence who numbered (3) and rated (7.00%) from the total sample.

**The fifth Sentence** (Is the assistant of consultants and specialists to write contract and to delivery and handover).

Table (40) and figure (36) frequency distribution of the answer of the fifth sentence.

**Table 40: Responses for the fifth sentence of Question 2**

Attitude	Frequency	Percent
Disagree	9	20.9%
Neutral	15	34.9%
Agree	19	44.2%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 36: Responses for the fifth sentence of Question 2.**

As shown in Table (40) and figure (36) the majority numbered (18) of the study sample were agreed with the sentence, and individuals representing a rate of (44.2%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (14), and rated (34.9%), and finally individuals whom disagreed with the sentence who numbered (11) and rated (20.9%) from the total sample.

**The following is the frequency distribution of the all sentences of the question two**

**Table 41: Responses for all sentences of Question 2**

Attitude	Frequency	Percent
Disagree	24	11.2%
Neutral	61	28.3%
Agree	130	60.5%
<b>Total</b>	<b>215</b>	<b>100.0%</b>

As shown in the Table above the majority numbered (130) of the study sample were agreed with the sentence, and individuals representing a rate of (60.5%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (61), and rated (28.3%), and finally individuals whom disagreed with the sentence who numbered (24) and rated (11.2%) from the total sample

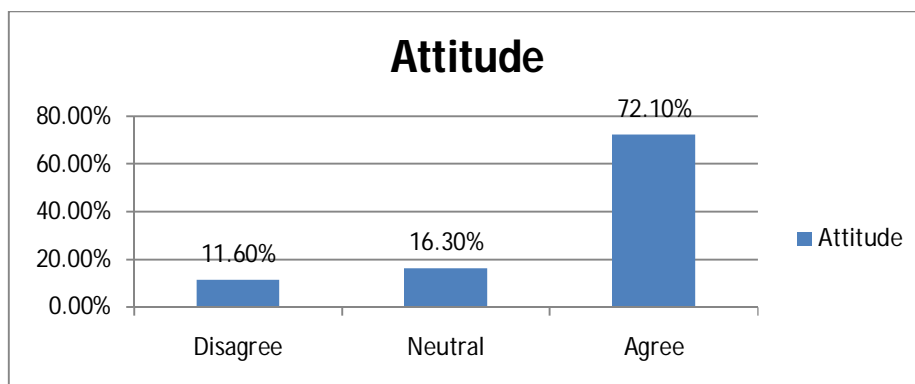
***3-The sentence of a question three (is outsourcing software development in conformity with required specification?)***

**The first Sentence** (During outsourcing software development the output is compatible with the requirements).

Table (42) and figure (37) frequency distribution of the answer of the first sentence.

**Table 42: Responses for the first sentence of Question 3**

Attitude	Frequency	Percent
Disagree	5	11.6%
Neutral	7	16.3%
Agree	31	72.1%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 37: Responses for the second sentence of Question 3.**

As shown in Table (42) and figure (37) the majority numbered (31) of the study sample were agreed with the sentence, and individuals representing a rate of (72.1%) of the total sample, followed by individuals whom

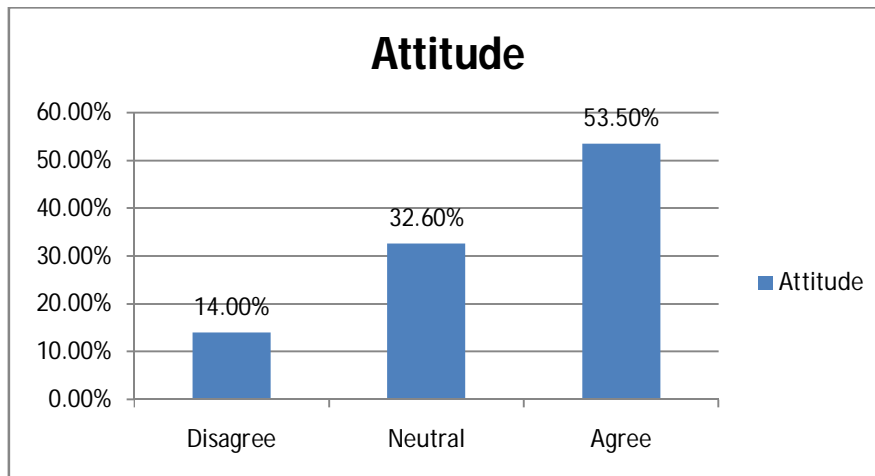
Neutral with the sentence who numbered (7), and rated (16.3%), and finally individuals whom disagreed with the sentence who numbered (5) and rated (11.6%) from the total sample.

**The second Sentence** (Are Specifications specified clearly in the contract).

Table (43) and figure (38) frequency distribution of the answer of the second sentence.

**Table 43: Responses for the second sentence of Question 3**

Attitude	Frequency	Percent
Disagree	6	14.0%
Neutral	14	32.6%
Agree	23	53.5%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 38: Responses for the second sentence of Question 3.**

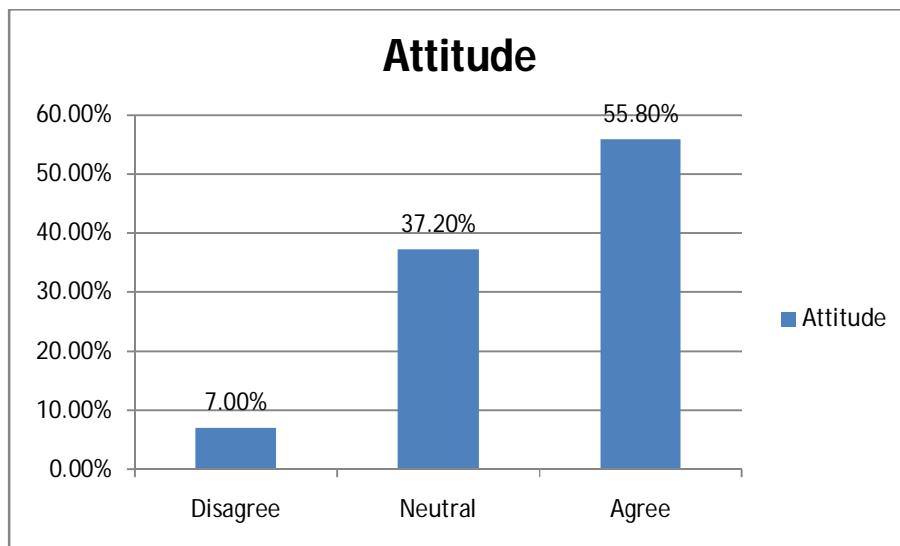
As shown in Table (43) and figure (38) the majority numbered (23) of the study sample were agreed with the sentence, and individuals representing a rate of (53.5%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (14), and rated (32.6%) and finally individuals whom disagreed with the sentence who numbered (6) and rated (14.00%) from the total sample.

**The third Sentence** (Can other requirements be added when needed).

Table (44) and figure (39) frequency distribution of the answer of the third sentence.

*Table 44: Responses for the third sentence of Question 3*

Attitude	Frequency	Percent
Disagree	3	7.0%
Neutral	16	37.2%
Agree	24	55.8%
<b>Total</b>	<b>3</b>	<b>100.0%</b>



*Figure 39: Responses for the third sentence of Question 3.*

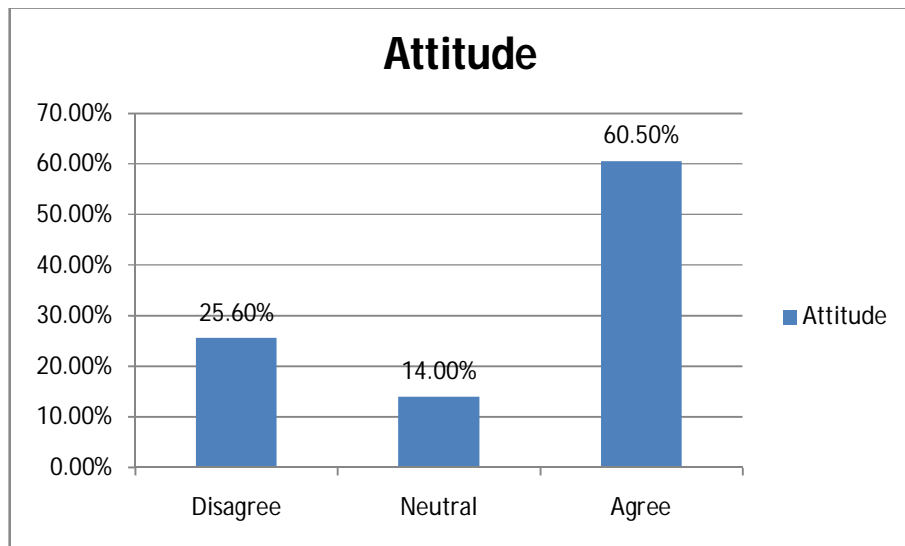
As shown in Table (44) and figure (39) the majority numbered (24) of the study sample were agreed with the sentence, and individuals representing a rate of (55.8%) of the total sample, and then followed by individuals whom Neutral with the sentence who numbered (16), and rated (37.2%), and finally individuals whom disagreed with the sentence who numbered (3) and rated (7.00%) from the total sample.

**The fourth Sentence** (Are there a specific software standards for the selection of software to ensure its success).

Table (45) and figure (40) frequency distribution of the answer of the fourth sentence:

**Table 45: Responses for the fourth sentence of Question 3**

Attitude	Frequency	Percent
Disagree	11	25.6%
Neutral	6	14.0%
Agree	26	60.5%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 40: Responses for the fourth sentence of Question 3.**

As shown in Table (45) and figure (40) the majority numbered (26) of the study sample were agreed with the sentence, and individuals representing a rate of (60.5%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (11), and rated (25.6%), and finally individuals whom Neutral with the sentence who numbered (6) and rated (14.0%) from the total sample.

*The following is the frequency distribution of the all sentences of the question three:*

**Table 46: Responses for the all sentences of Question 3**

<b>Attitude</b>	<b>Frequency</b>	<b>Percent</b>
Disagree	25	14.5%
Neutral	43	25%
Agree	104	60.5%
<b>Total</b>	<b>172</b>	<b>100.0%</b>

As shown in the Table above the majority numbered (104)of the study sample were agreed with the sentence, and individuals representing a rate of (60.5%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (43), and rated(25%), and finally individuals whom disagreed with the sentence who numbered (25) and rated(14.5%) from the total sample

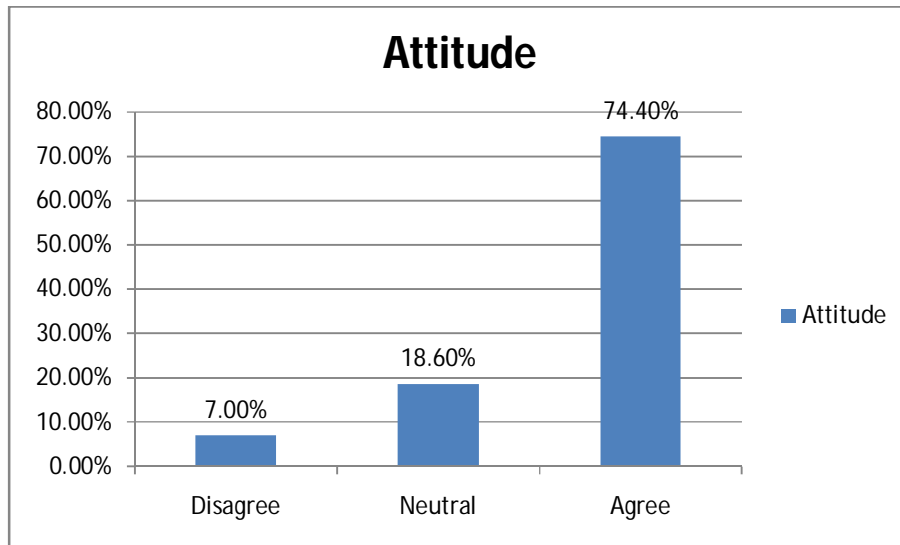
**4-The sentence of a question fourth (does the failure of outsourcing software development result from weak specification of requirements?)**

**The first Sentence** (Outsourcing software developmental ways fail due to poor and unclear of the description requirements).

Table (47) and figure (41) frequency distribution of the answer of the first sentence.

**Table 47: Responses for the first sentence of Question 4**

<b>Attitude</b>	<b>Frequency</b>	<b>Percent</b>
Disagree	3	7.0%
Neutral	8	18.6%
Agree	32	74.4%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 41: Responses for the first sentence of Question 4.**

As shown in Table (47) and figure (41) the majority numbered (32) of the study sample were agreed with the sentence, and individuals representing a rate of (74.4%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (8), and rated (18.6%), and finally individuals whom disagreed with the sentence who numbered (3) and rated (7.0%) from the total sample.

**5-The sentence of a question five (is there any relation between efficiency and effectiveness of software outsourcing development?)**

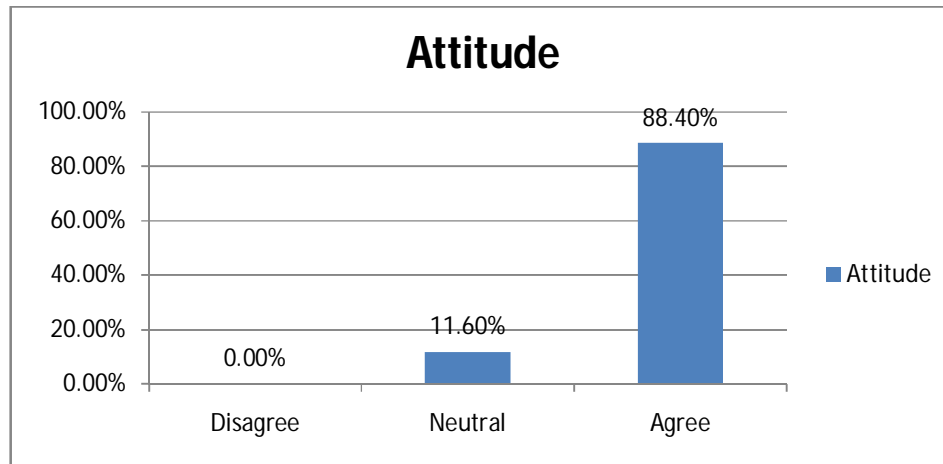
**The first Sentence** (efficiency and effectiveness stipulated when outsourcing software development).

Table (48) and figure (42) frequency distribution of the answer of the first sentence.

**Table 48: Responses for the first sentence of Question 5**

Attitude	Frequency	Percent
Disagree	0	0.0%
Neutral	5	11.6%
Agree	38	88.4%
<b>Total</b>	<b>43</b>	<b>100.0%</b>





**Figure 42: Responses for the first sentence of Question 5.**

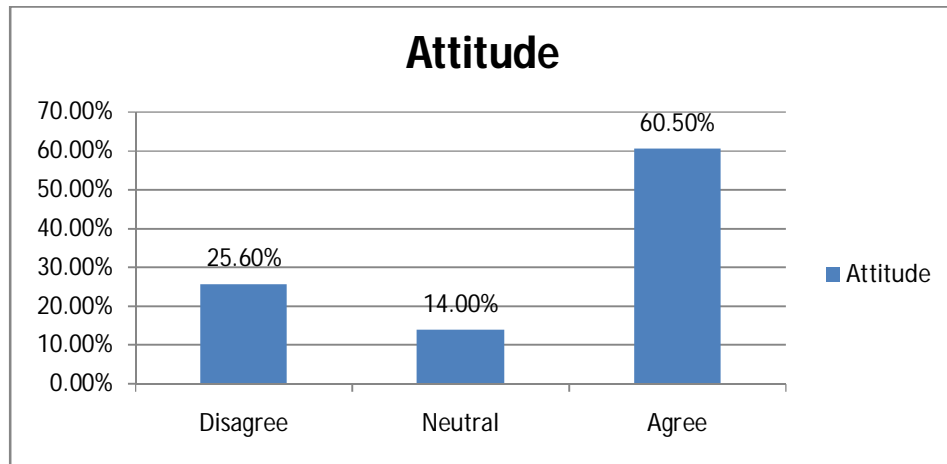
As shown in Table (48) and figure (42) the majority numbered (38) of the study sample were agreed with the sentence, and individuals representing a rate of (88.4%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (5), and rated (11.6%), and finally individuals whom disagreed with the sentence who numbered (0) and rated (0.0%) from the total sample.

**The second Sentence** (Are there a specific software standards for the selection of software that ensure its success).

Table (49) and figure (43) frequency distribution of the answer of the second sentence.

**Table 49: Responses for the second sentence of Question 5**

Attitude	Frequency	Percent
Disagree	11	25.6%
Neutral	6	14.0%
Agree	26	60.5%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 43: Responses for the second sentence of Question 5.**

As shown in Table (49) and figure (43) the majority numbered (26) of the study sample were agreed with the sentence, and individuals representing a rate of (60.5%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (11), and rated (25.6%), and finally individuals whom Neutral with the sentence who numbered (6) and rated (14.0%) from the total sample

*The following is the frequency distribution of the all sentences of the question five:*

**Table 50: Responses for the all sentence of Question 5**

Attitude	Frequency	Percent
Disagree	11	12.7%
Neutral	11	12.7%
Agree	64	74.6%
<b>Total</b>	<b>86</b>	<b>100.0%</b>

As shown in the Table above the majority numbered (64) of the study sample were agreed with the sentence, and individuals representing a rate of (74.6%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (11), and rated (12.7%), and finally

individuals whom disagreed with the sentence who numbered (11) and rated(12.7%) from the total sample

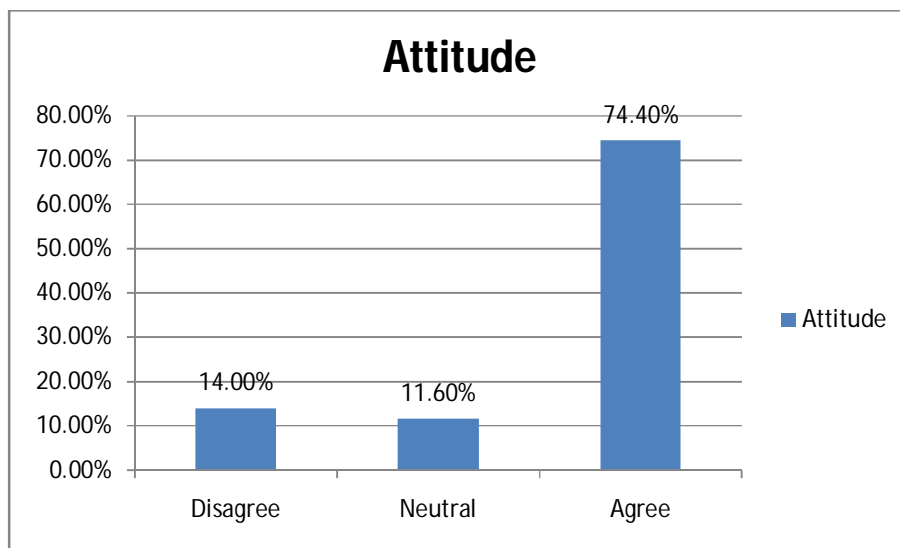
**6-The sentence of a question six (are there any obstacles that affect outsourcing development?)**

**The first Sentence** (the specific requirements of the(Hardware , Training Business Process, ) are always determined in a scientific manner before the introduction of outsourcing).

Table (51) and figure (44) frequency distribution of the answer of the first sentence.

**Table 51: Responses for the first sentence of Question 6**

Attitude	Frequency	Percent
Disagree	6	14.0%
Neutral	5	11.6%
Agree	32	74.4%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 44: Responses for the first sentence of Question 6.**

As shown in Table (51) and figure (44) the majority numbered (32)of the study sample were agreed with the sentence, and individuals representing a rate of (74.4%) of the total sample, followed by individuals whom

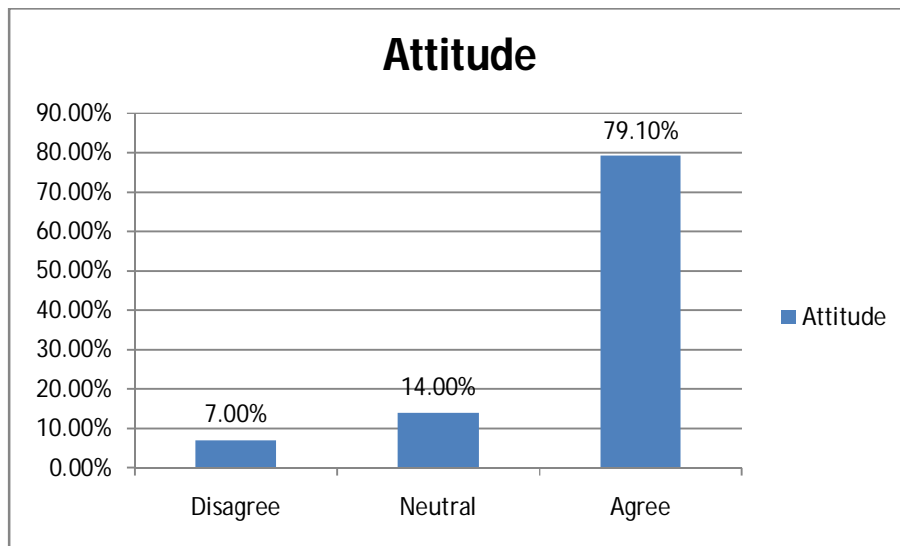
disagreed with the sentence who numbered (6), and rated (14.0%), and finally individuals whom Neutral with the sentence who numbered (5) and rated(11.6%) from total sample.

**The second Sentence** (The obstacles are taking into account when outsourcing software development).

Table (52) and figure (45) frequency distribution of the answer of the second sentence.

*Table 52: Responses for the second sentence of Question 6*

Attitude	Frequency	Percent
Disagree	3	7.0%
Neutral	6	14.0%
Agree	34	79.1%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 45: Responses for the second sentence of Question 6.*

As shown in Table (52) and figure (45) the majority numbered (34)of the study sample were agreed with the sentence, and individuals representing a rate of (79.1%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (6), and rated (14.0%), and

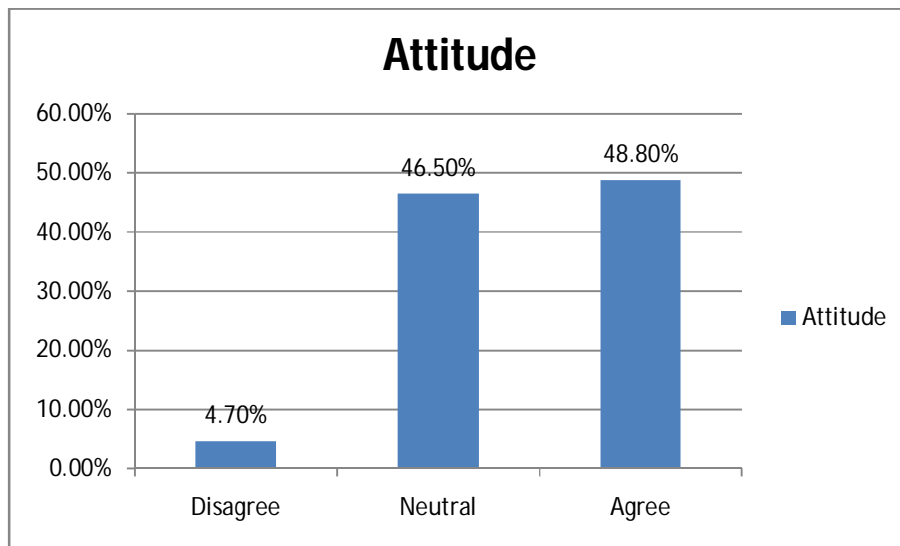
finally individuals whom disagreed with the sentence who numbered (3) and rated (7.0%) from the total sample.

**The third Sentence** (are there obstacles during outsourcing software development).

Table (53) and figure (46) frequency distribution of the answer of the third sentence.

**Table 53: Responses for the third sentence of Question 6**

Attitude	Frequency	Percent
Disagree	2	4.7%
Neutral	20	46.5%
Agree	21	48.8%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 46: Responses for the third sentence of Question 6.**

As shown in Table (53) and figure (46) the majority numbered (21) of the study sample were agreed with the sentence, and individuals representing a rate of (48.8%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (20), and rated (46.5%) , and finally individuals whom Neutral with the sentence who numbered (2) and rated (4.7%) from the total sample.

The following is the frequency distribution of the all sentences of the question six:

**Table 54: Responses for the all sentences of Question 6**

Attitude	Frequency	Percent
Disagree	11	8.5%
Neutral	31	24.1%
Agree	87	67.4%
<b>Total</b>	<b>129</b>	<b>100.0%</b>

As shown in the Table above the majority numbered (87) of the study sample were agreed with the sentence, and individuals representing a rate of (67.4%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (31), and rated (24.1%), and finally individuals whom disagreed with the sentence who numbered (11) and rated (8.5%) from the total sample

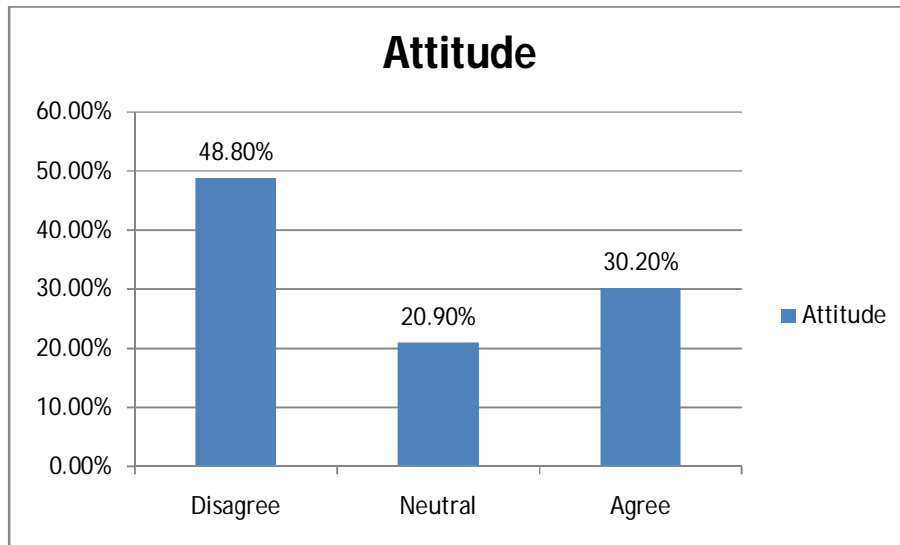
**7-The sentence of question seven (Is the failure of outsourcing software development occurred due to lack of skills and abilities of users?)**

**The first Sentence** (Failure in outsource software development is a result of the lack of user experience and the weakness of their capabilities).

Table (55) and figure (47) frequency distribution of the answer of the first sentence.

**Table 55: Responses for the first sentence of Question 7**

Attitude	Frequency	Percent
Disagree	21	48.8%
Neutral	9	20.9%
Agree	13	30.2%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 47: Responses for the first sentence of Question 7.**

As shown in Table (55) and figure (47) the majority numbered (21) of the study sample were disagreed with the sentence, and individuals representing a rate of (48.8%) of the total sample, followed by individuals whom agreed with the sentence who numbered (13), and rated (30.9%), and finally individuals whom Neutral with the sentence who numbered (9) and rated (20.9%) from the total sample.

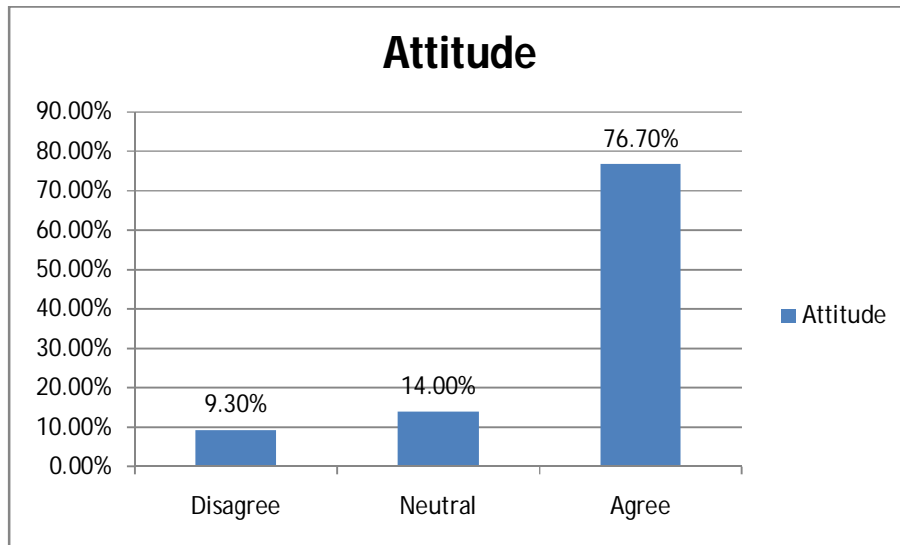
**8-The sentence of a question eight (clarify if failure of outsourcing software development a result of failure in decision process?)**

**The first Sentence** (The organization takes the risks into account when applying outsourcing software development).

Table (56) and figure (48) frequency distribution of the answer of the first sentence.

**Table 56: Responses for the first sentence of Question 8**

Attitude	Frequency	Percent
Disagree	4	9.3%
Neutral	6	14.0%
Agree	33	76.7%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 48: Responses for the first sentence of Question 8.**

As shown in Table (56) and figure (48) the majority numbered (33) of the study sample were agreed with the sentence, and individuals representing a rate of (76.6%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (6), and rated (14.0%), and finally individuals whom disagreed with the sentence who numbered (3) and rated (9.4%) from the total sample.

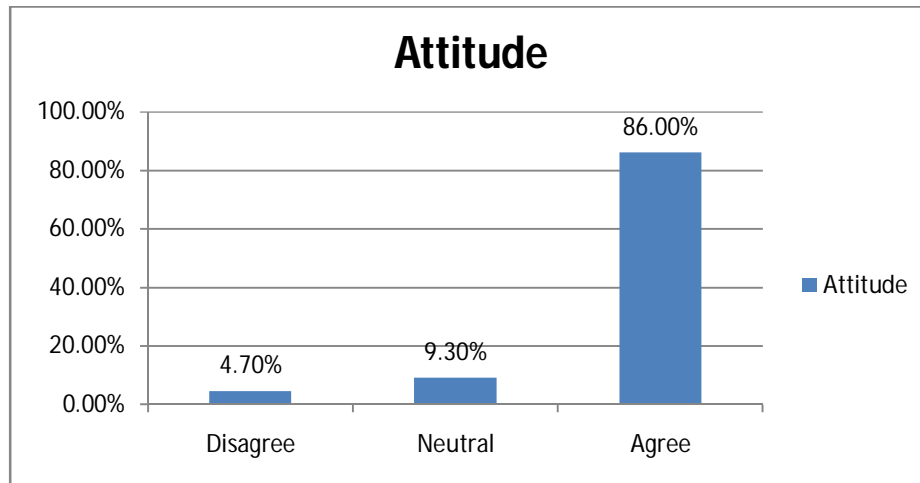
**The second Sentence** (In the case of application outsourcing software development Considering the advantage and disadvantage of the application).

Table (57) and figure (49) frequency distribution of the answer of the second sentence.

**Table 57: Responses for the second sentence of Question 8**

Attitude	Frequency	Percent
Disagree	2	4.7%
Neutral	4	9.3%
Agree	37	86.0%
<b>Total</b>	<b>43</b>	<b>100.0%</b>





**Figure 49: Responses for the second sentence of Question 8.**

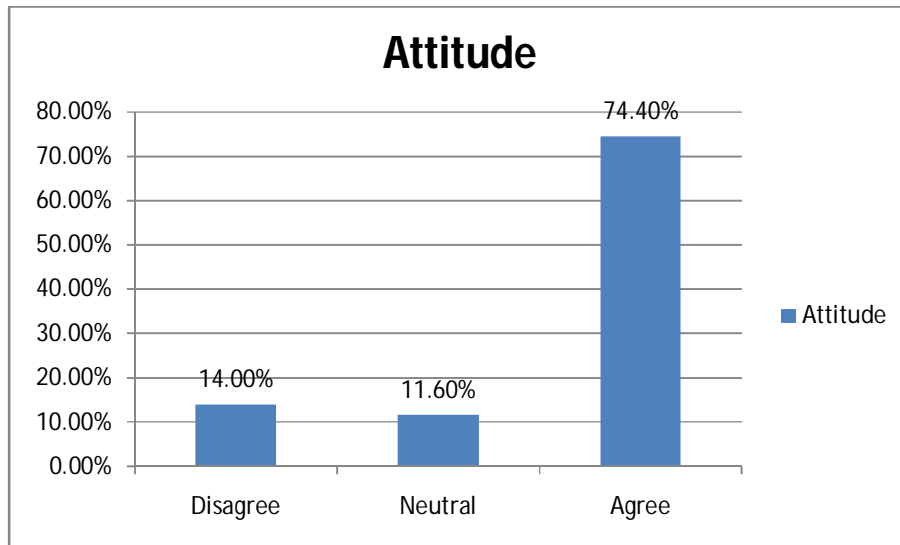
As shown in Table (57) and figure (49) the majority numbered (37) of the study sample were agreed with the sentence, and individuals representing a rate of (86.0%) of the total sample, and then followed by individuals whom Neutral with the sentence who numbered (4), and rated (9.3%), and finally individuals whom disagreed with the sentence who numbered (2) and rated (4.7%) from the total sample.

**.The third sentence** (the specific requirements of the(Hardware , Training Business Process, ) are always determined in a scientific manner before the introduction of outsourcing.)

Table (58) and figure (50) frequency distribution of the answer of the third sentence:

**Table 58: Responses for the third sentence of Question 8**

Attitude	Frequency	Percent
Disagree	6	14.0%
Neutral	5	11.6%
Agree	32	74.4%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 49: Responses for the third sentence of Question 8.**

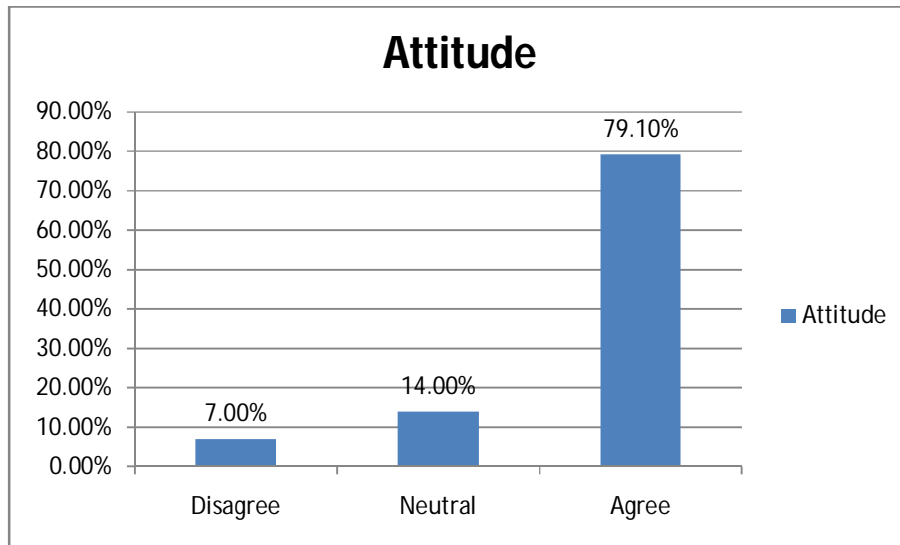
As shown in Table (58) and figure (50) the majority numbered (32) of the study sample were agreed with the sentence, and individuals representing a rate of (74.4%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (6), and rated (14.0%), and finally individuals whom Neutral with the sentence who numbered (5) and (11.6%) from the total sample.

**The fourth sentence** (The obstacles were taken into account while outsourcing software development)

Table (59) and figure (51) frequency distribution of the answer of the fourth sentence.

**Table 59: Responses for the fourth sentence of Question 8**

Attitude	Frequency	Percent
Disagree	3	7.0%
Neutral	6	14.0%
Agree	34	79.1%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 51: Responses for the fourth sentence of Question 8.**

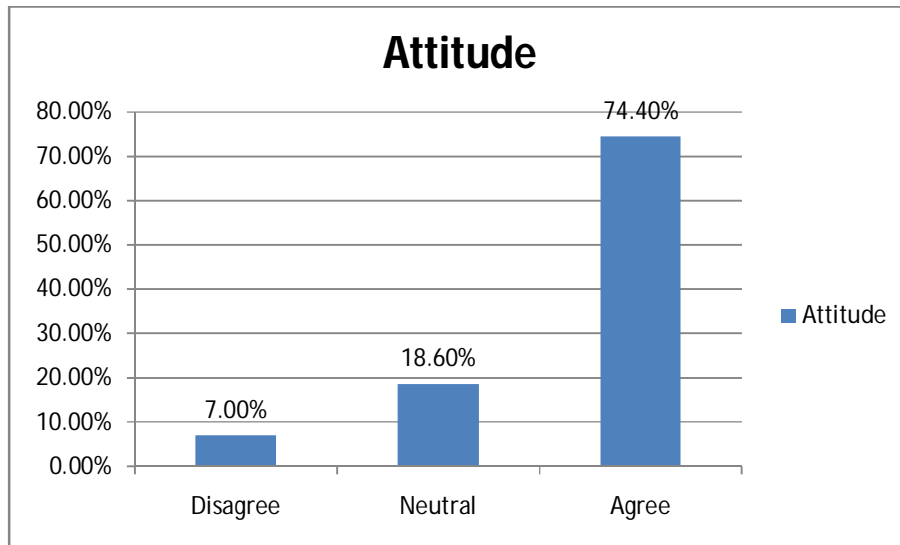
As shown in Table (59) and figure (51) the majority numbered (34) of the study sample were agreed with the sentence, and individuals representing a rate of (79.1%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (6), and rated (14.0%), and finally individuals whom disagreed with the sentence who numbered (3) and rated (7.0%) from the total sample.

**The fifth sentence** (Outsourcing software development always fail due to poor and unclear of the description requirements.)

Table (60) and figure (52) frequency distribution of the answer of the fifth sentence.

**Table 60: Responses for the fifth sentence of Question 8**

Attitude	Frequency	Percent
Disagree	3	7.0%
Neutral	8	18.6%
Agree	32	74.4%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 52: Responses for the fifth sentence of Question 8.**

As shown in Table (60) and figure (52) the majority numbered (32) of the study sample were agreed with the sentence, and individuals representing a rate of (74.4%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (8), and rated (18.6%), and finally individuals whom disagreed with the sentence who numbered (3) and rated (7.0%) from the total sample.

*The following is the frequency distribution of the all sentences of the question eight:*

**Table 61: Responses for the all sentences of Question 8**

Attitude	Frequency	Percent
Disagree	18	8.2%
Neutral	29	13.4%
Agree	168	78.4%
<b>Total</b>	<b>215</b>	<b>100.0%</b>

Shown the Table above that the majority of the study sample are agree with the sentence, where numbered (168) and individuals representing a rate of (78.4%) of the total sample, and then followed by individuals whom Neutral with the sentence where numbered (29), and (13.4%) of

the total sample, and finally individuals whom disagree with the sentence where numbered (18) and (8.2%) from the total sample

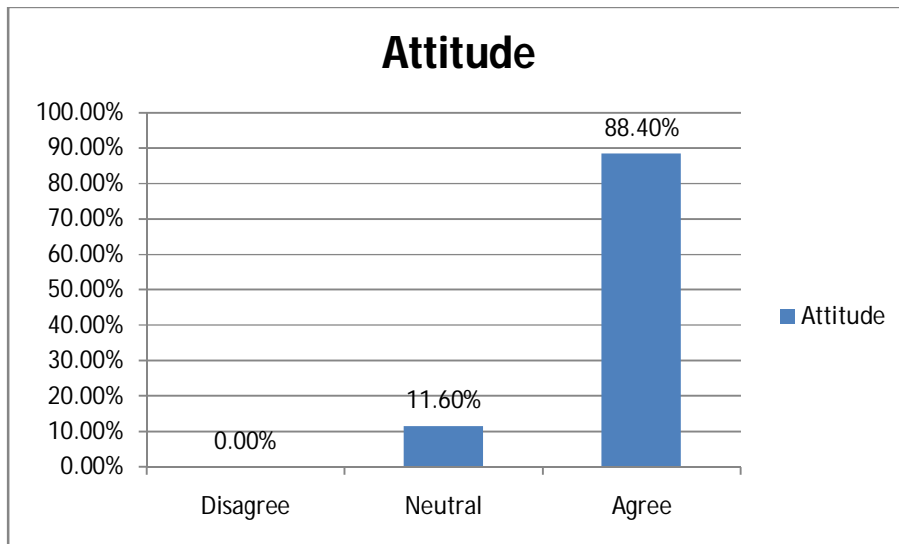
**9-The sentence of a question ninth (Does the organization assess and measure the performance?)**

**The first Sentence** (efficiency and effectiveness stipulated when outsourcing software development).

Table (62) and figure (53) frequency distribution of the answer of the first sentence.

*Table 62: Responses for the first sentence of Question 9*

Attitude	Frequency	Percent
Disagree	0	0.0%
Neutral	5	11.6%
Agree	38	88.4%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 53: Responses for the first sentence of Question 9.*

Shown in Table (62) and figure (53) the majority numbered (38) of the study sample were agreed with the sentence, and individuals representing a rate of (88.4%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (5), and rated (11.6%), and

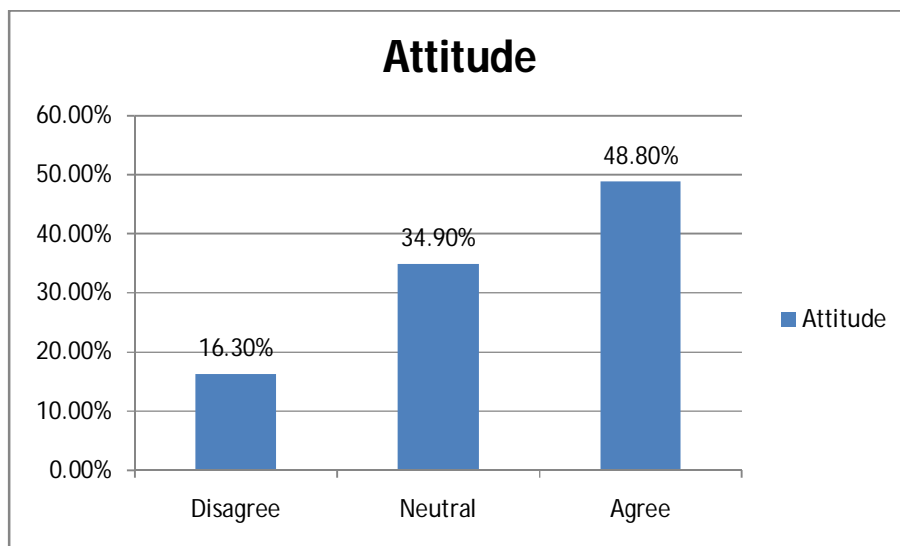
finally individuals whom disagreed with the sentence who numbered (0) and (0.0%) from the total sample.

**The second Sentence** (Are there any Reporting Method for assessment).

Table (63) and figure (54) frequency distribution of the answer of the second sentence.

**Table 63: Responses for the second sentence of Question 9**

Attitude	Frequency	Percent
Disagree	7	16.3%
Neutral	15	34.9%
Agree	21	48.8%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 54: Responses for the second sentence of Question 9.**

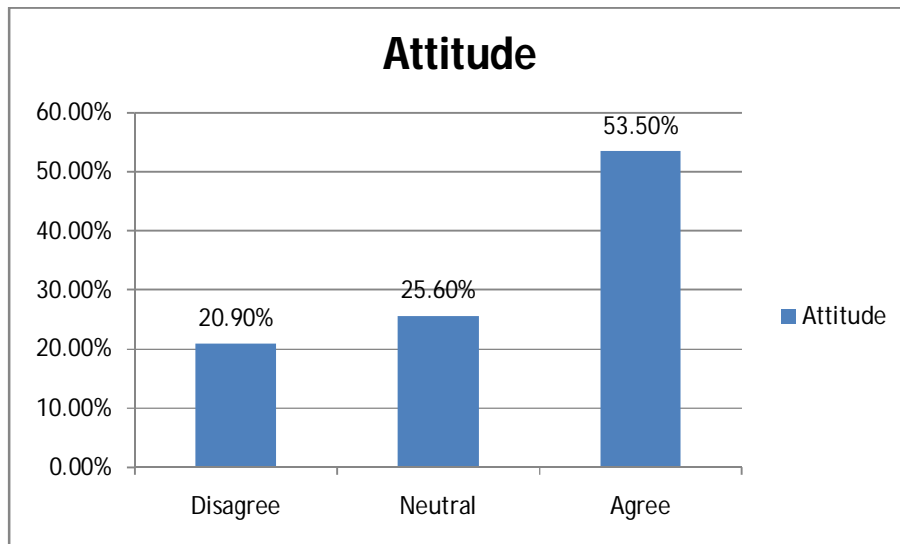
As shown in Table (63) and figure (54) the majority numbered (21) of the study sample were agreed with the sentence, and individuals representing a rate of (48.8%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (15), and rated (34.9%), and finally individuals whom disagreed with the sentence who numbered (7) and rated (16.3%) from the total sample.

**The third Sentence** (Are there clear criteria for evaluating the performance of software).

Table (64) and figure (55) frequency distribution of the answer of the third sentence.

*Table 64: Responses for the first sentence of Question 8*

Attitude	Frequency	Percent
Disagree	9	20.9%
Neutral	11	25.6%
Agree	23	53.5%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 55: Responses for the second sentence of Question 8.*

As shown in Table (64) and figure (55) the majority numbered (23) of the study sample were agreed with the sentence, and individuals representing a rate of (53.5%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (11), and rated (25.6%), and finally individuals whom disagreed with the sentence who numbered (9) and rated (20.9%) from the total sample.

*The following is the frequency distribution of the all sentences of the question nine:*

**Table 65: Responses for the all sentences of Question 8**

<b>Attitude</b>	<b>Frequency</b>	<b>Percent</b>
Disagree	16	12.4%
Neutral	31	24.1%
Agree	82	63.5%
<b>Total</b>	<b>129</b>	<b>100.0%</b>

As shown the Table above the majority numbered (82)of the study sample were agreed with the sentence, and individuals representing a rate of (63.5%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (31), and rated(24.1%), and finally individuals whom disagreed with the sentence who numbered (16) and rated (12.4%) from the total sample

***10-The sentence of a question ten (are there any strict security guideline for outsourcing software development and policies?)***

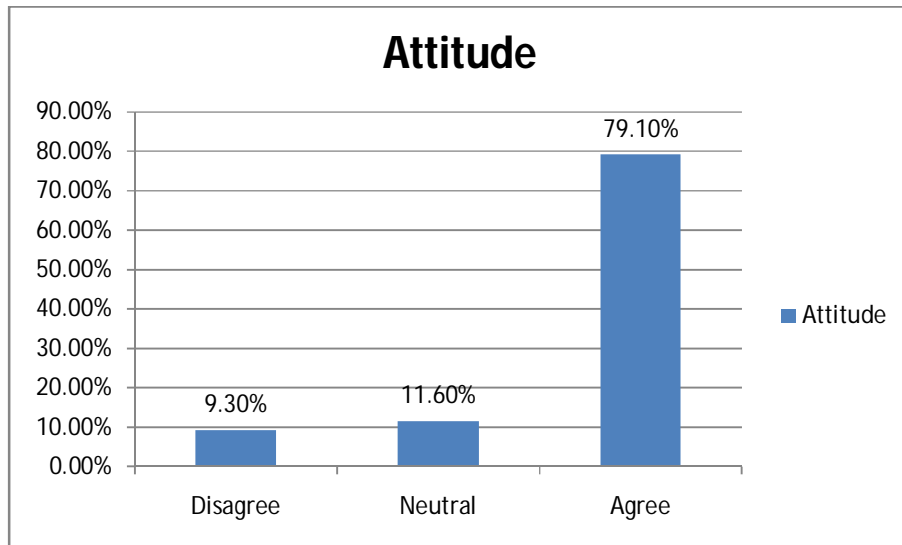
**The first Sentence** (There are clear policies and rules of confidentiality when resorting to external sources for software development).

Table (66) and figure (56) frequency distribution of the answer of the first sentence.

**Table 66: Responses for the first sentence of Question 10**

<b>Attitude</b>	<b>Frequency</b>	<b>Percent</b>
Disagree	4	9.3%
Neutral	5	11.6%
Agree	34	79.1%
<b>Total</b>	<b>43</b>	<b>100.0%</b>





**Figure 56: Responses for the first sentence of Question 10.**

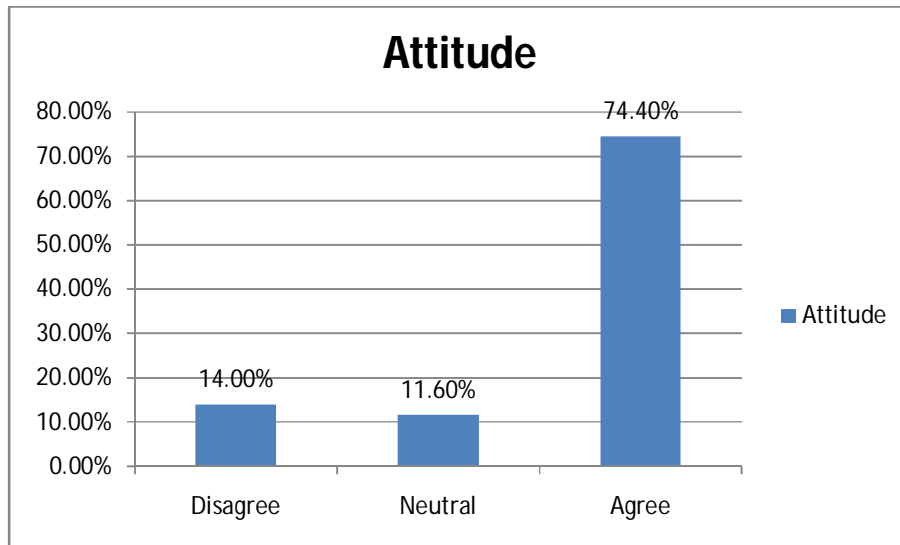
As shown in Table (66) and figure (56) the majority numbered (34) of the study sample were agreed with the sentence, and individuals representing a rate of (79.1%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (5), and rated (11.6%), and finally individuals whom disagreed with the sentence who numbered (4) and (9.3%) from the total sample.

**The second sentence** (Does outsourcing represent threat to organizations)

Table (67) and figure (57) frequency distribution of the answer of the second sentence.

**Table 67: Responses for the second sentence of Question 10**

Attitude	Frequency	Percent
Disagree	6	14.0%
Neutral	5	11.6%
Agree	32	74.4%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 57: Responses for the second sentence of Question 10.**

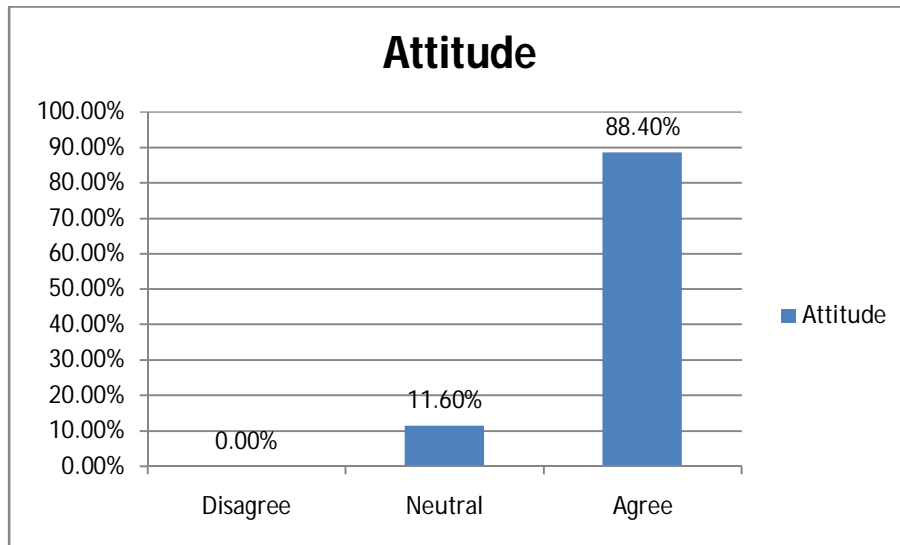
As shown in Table (67) and figure (57) the majority numbered (32) of the study sample were agreed with the sentence, and individuals representing a rate of (74.4%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (6), and rated (14.0%), and finally individuals whom Neutral with the sentence who numbered (5) and rated (11.6%) from the total sample.

**The third Sentence** (are there clear criteria for evaluating the performance of software).

Table (68) and figure (58) frequency distribution of the answer of the third sentence.

**Table 68: Responses for the third sentence of Question 10**

Attitude	Frequency	Percent
Disagree	0	0.0%
Neutral	5	11.6%
Agree	38	88.4%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 58: Responses for the third sentence of Question 10.**

As shown in Table (68) and figure (58) the majority numbered (38) of the study sample were agreed with the sentence, and individuals representing a rate of (88.4%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (5), and rated (11.6%), and finally individuals whom disagreed with the sentence who numbered (0) and rated (0.0%) from the total sample

*The following is the frequency distribution of the all sentences of the question ten:*

**Table 69: Responses for the all sentences of Question 8**

Attitude	Frequency	Percent
Disagree	10	7.7%
Neutral	15	11.6%
Agree	104	80.7%
<b>Total</b>	<b>129</b>	<b>100.0%</b>

As shown in the Table above the majority numbered (104) of the study sample were agreed with the sentence, and individuals representing a rate of (80.7%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (15), and rated (11.6%), and finally

individuals whom disagreed with the sentence who numbered (10) and rated (7.7%) from the total sample

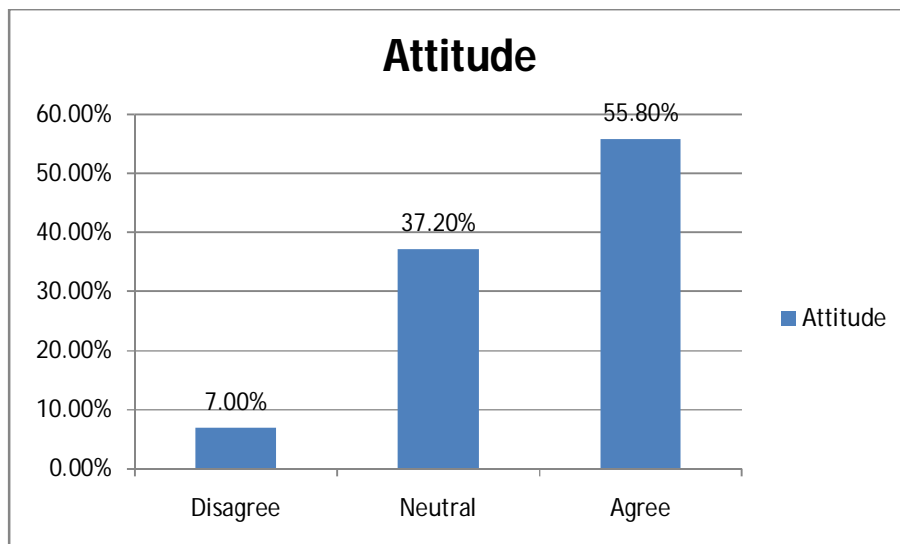
**11-The sentence of a question eleven (what is the ability of contract of outsourcing software development to handling change ?)**

The first Sentence (Can other requirements be added when needed?).

Table (70) and figure (59) frequency distribution of the answer of the third sentence.

*Table 70: Responses for the first sentence of Question 11*

Attitude	Frequency	Percent
Disagree	3	7.0%
Neutral	16	37.2%
Agree	24	55.8%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 59: Responses for the first sentence of Question 11.*

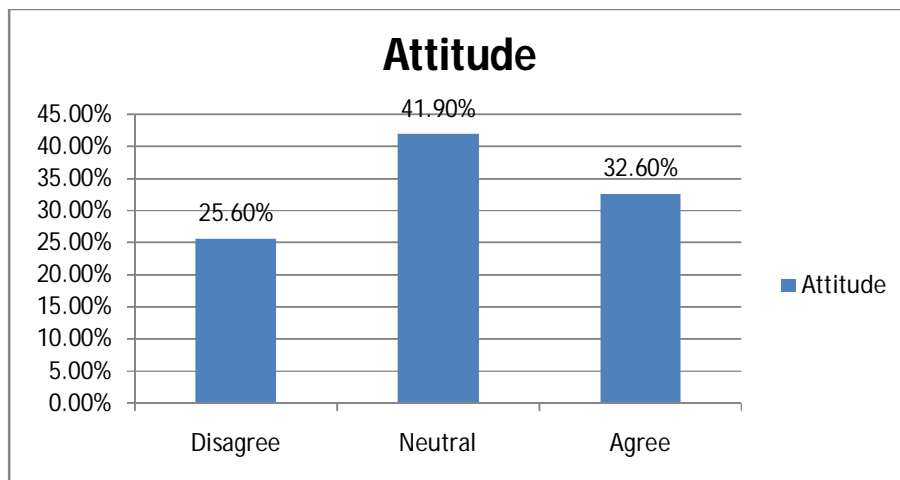
As shown in Table (59) and figure (58) the majority numbered (24) of the study sample were agree with the sentence, and individuals representing a rate of (55.8%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (16), and rated (37.2%), and finally individuals whom disagreed with the sentence who numbered (3) and rated (7.00%) from the total sample.

**The second Sentence** (Is there any flexibility in the contract to be negotiable for change with policy change?).

Table (71) and figure (60) frequency distribution of the answer of the second sentence.

*Table 71: Responses for the second sentence of Question 11*

Attitude	Frequency	Percent
Disagree	11	25.6%
Neutral	18	41.9%
Agree	14	32.6%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 60: Responses for the second sentence of Question 11.*

As shown in Table (71) and figure (60) the majority numbered (18) of the study sample were Neutral with the sentence, and individuals representing a rate of (41.9%) of the total sample, followed by individuals

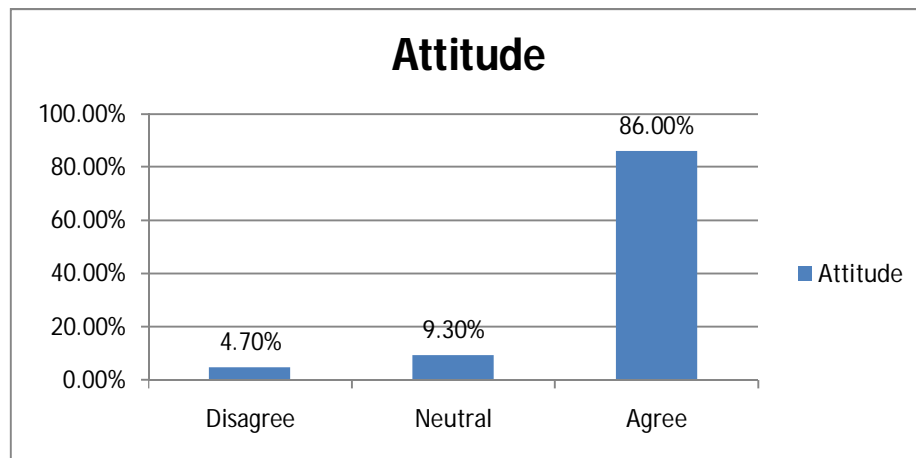
whom agreed with the sentence who numbered (14), and rated (32.6%), and finally individuals whom disagreed with the sentence who numbered (11) and rated (25.6%) from the total sample.

**The third Sentence** (Is there a paragraph in the contract addressing maintenance?)

Table (72) and figure (61) frequency distribution of the answer of the second sentence:

*Table 72: Responses for the third sentence of Question 11*

Attitude	Frequency	Percent
Disagree	2	4.7%
Neutral	4	9.3%
Agree	37	86.0%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 61: Responses for the third sentence of Question 11.*

As shown in Table (72) and figure (61) the majority numbered (37) of the study sample were agreed with the sentence, and individuals representing a rate of (86.0%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (4), and rated (9.3%), and finally individuals whom disagreed with the sentence who numbered (2) and rated (4.7%) from the total sample.

The following is the frequency distribution of the all sentences of the question eleven:

**Table 73: Responses for the all sentences of Question 11**

<b>Attitude</b>	<b>Frequency</b>	<b>Percent</b>
Disagree	16	12.4%
Neutral	38	29.4%
Agree	75	58.4%
<b>Total</b>	<b>129</b>	<b>100.0%</b>

As shown in the Table above the majority numbered (75) of the study sample were agreed with the sentence, and individuals representing a rate of (58.4%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (38), and rated (29.4%), and finally individuals whom disagreed with the sentence who numbered (16) and rated (12.4%) from total sample

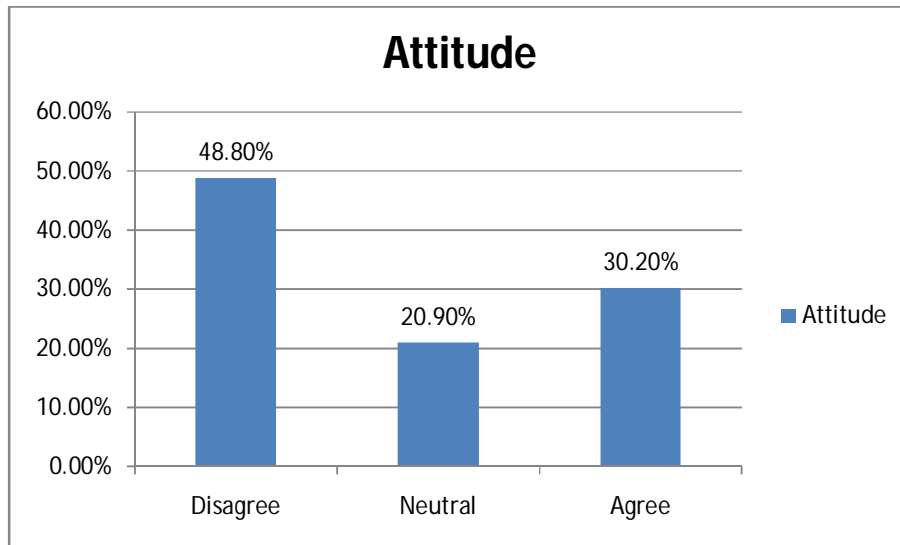
**12-The sentence of a question twelve (clarify the extent of attention the organization of end users and usability of the system?)**

**The first Sentence** (Failure in outsource software development is a result of users lack experience and weakness of their capabilities?).

Table (74) and figure (62) frequency distribution of the answer of the first sentence.

**Table 74: Responses for the first sentence of Question 12**

<b>Attitude</b>	<b>Frequency</b>	<b>Percent</b>
Disagree	21	48.8%
Neutral	9	20.9%
Agree	13	30.2%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 62: Responses for the first sentence of Question 12.**

As shown in Table (74) and figure (62) the majority numbered (21) of the study sample were disagreed with the sentence, and individuals representing a rate of (48.8%) of the total sample, followed by individuals whom agreed with the sentence who numbered (13), and rated (30.9%), and finally individuals whom Neutral with the sentence who numbered (9) and rated (20.9%) from the total sample.

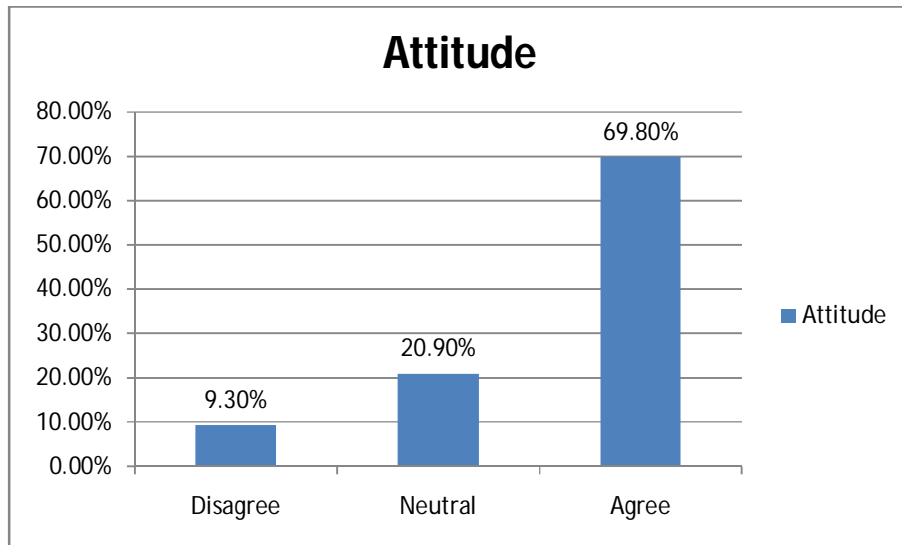
**The second Sentence** (Are the user involved in identifying requirements for the new system?).

Table (75) and figure (63) frequency distribution of the answer of the second sentence.

**Table 75: Responses for the second sentence of Question 12**

Attitude	Frequency	Percent
Disagree	4	9.3%
Neutral	9	20.9%
Agree	30	69.8%
<b>Total</b>	<b>43</b>	<b>100.0%</b>





**Figure 63: Responses for the second sentence of Question 12.**

As shown in Table (75) and figure (63) the majority numbered (30) of the study sample were disagreed with the sentence, and individuals representing a rate of (69.8%) of the total sample, followed by individuals whom agreed with the sentence who numbered (9), and rated (20.9%), and finally individuals whom Neutral with the sentence who numbered (4) and rated (9.3%) from the total sample.

*The following is the frequency distribution of the all sentences of the question twelve:*

**Table 76: Responses for the all sentences of Question 12**

Attitude	Frequency	Percent
Disagree	25	29.1%
Neutral	18	20.9%
Agree	43	50.0%
<b>Total</b>	<b>86</b>	<b>100.0%</b>

As shown in the Table above the majority numbered (43) of the study sample were agreed with the sentence, and individuals representing a rate of (50.0%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (25), and rated (29.1%), and finally

individuals whom Neutral with the sentence who numbered (18) and rated (20.9%) from the total sample

**13- *The sentence of question thirteen*** (*what reasons that make the experience of outsourcing software development successful in Sudan and what are the differences between software produced within Sudan and produced outside Sudan?*).

***First sentence (is outsourcing software development successful in Sudan and why?):***

- 1- Poor economic conditions (migration most programmers and IT professionals even for employees of institutions).
- 2- If it was hired to build a considerable need, the Foundation has been the implementation on the basis of scientific.
- 3- The U.S. economic embargo on Sudan.
- 4- Labor cost compared to the cost of annual purchased the rest of the programs.
- 5- Foreign companies on the list of institutional and specialized in the production and relies on the idea of the software team.
- 6- Lack of professional programmers in the organization and the weakness of existing experience and lack of attention to training.
- 7- External sources by many restrictions prevent error.
- 8- Local companies based on the idea of one man, and also there are no strong companies to compete in the field.
- 9- Ensure avoid conflicts of interest.
- 10- Benefit from the experience accumulated by the houses of the programming and the highest degree of security and confidentiality in the implementation.
- 11- The clarity of standards and institutional.
- 12- The scientific study and determine the required outputs from the outset and stakeholder engagement.

- 13- Identify business processes and change mutatis or authenticated by a specialist consultant can form a guarantee for the success of foreign software.
- 14- Foreign fishes It adopts the latest technologies and global software.
- 15- Drafting contracts in a manner that guarantees the rights and obligations of all parties.
- 16- Description requirements are clear and the need to involve all stakeholders.
- 17- Foreign companies or global bear the risk arising from faulty software.
- 18- International companies specialized and depend on the efficiencies and expertise of the best minds globally.
- 19- The belief that the outer product quality is always more and more on the ability of performance.

***Second Produced outside Sudan best for the following reasons:***

- 1- Programmers outside Sudan have open sources of knowledge and scientific research.
- 2- Team work does not suffer from any pressure of any kind.
- 3- The use of the latest technologies produced in global markets.
- 4- The quality and stability of the international regulations and follow scientific methods in the issuance.
- 5- Product experienced external scientific and practical for that product outside of readiness and be more abbreviated time.
- 6- Has the user's manual.
- 7- Keep up with the evolution of.
- 8- A difference of experience and degrees Rehabilitation and Support Systems work to ensure that continuous training of cadres and implementation of systems with high specifications.
- 9- The economic embargo on Sudan limits of technical possibilities available to institutions and it also determines the exchange.

***Third Produced within Sudan best for the following reasons:***

- 1- The product locally to avoid the risk of language and communication.
- 2- Know the requirements of users and rapid maintenance.
- 3- The presence of the source code inside Sudan.
- 4- Programmed his previous knowledge of the local business process for an employer.
- 5- Sudan suffers from policy changes on an ongoing basis so the product inside Sudan has the flexibility of continuous adjustment.
- 6- Ease of handling and the lack of a language barrier and culture.
- 7- State regulations need to be a mighty effort to fit with the needs and local cultures can lead to problems in the treatment of amendment.

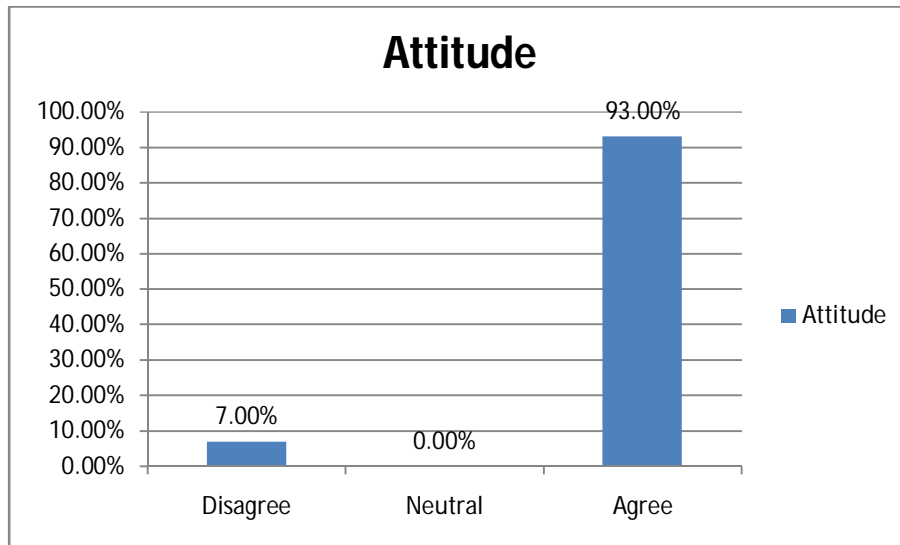
***14-The sentence of a question fourteen*** (was the decision made to apply outsourcing according to the considerable need and whether the institution was the study of the subject in a scientific manner before the introduction of outsourcing?)

**The first Sentence** (In the case use outsourcing software development the goal and needs were determined by the organization on the basis need of organization)

Table (77) and figure (64) frequency distribution of the answer of the first sentence.

***Table 77: Responses for the first sentence of Question 14***

<b>Attitude</b>	<b>Frequency</b>	<b>Percent</b>
Disagree	3	7.0%
Neutral	0	0.0%
Agree	40	93.0%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 64: Responses for the first sentence of Question 14.**

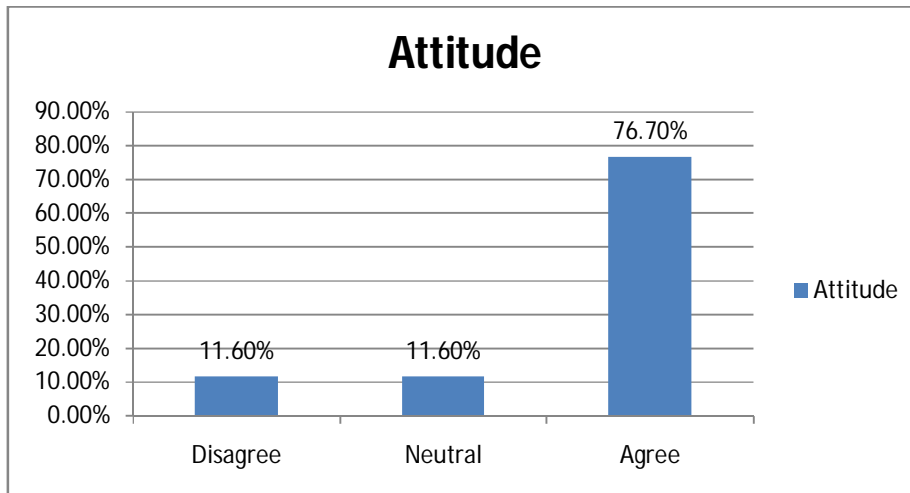
As shown in Table (77) and figure (64) the majority numbered (40) of the study sample were agreed with the sentence, and individuals representing a rate of (93.0%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (3), and rated (7.0%), and finally individuals whom Neutral with the sentence who numbered (0) and rated (0.0%) from the total sample

**The second Sentence** (Outsourcing was studied in a scientific way before a decision was taken and implemented.).

Table (78) and figure (65) frequency distribution of the answer of the second sentence.

**Table 78: Responses for the second sentence of Question 14**

Attitude	Frequency	Percent
Disagree	5	11.6%
Neutral	5	11.6%
Agree	33	76.7%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 65: Responses for the second sentence of Question 14.**

As shown in Table (78) and figure (65) the majority numbered (33) of the study sample were agreed with the sentence, and individuals representing a rate of (76.7%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (5), and rated (11.6%), and finally individuals whom Neutral with the sentence who numbered (5) and rated (11.6%) from the total sample.

*The following is the frequency distribution of the all sentences of the question fourteen:*

**Table 79: Responses for the all sentence of Question 14**

Attitude	Frequency	Percent
Disagree	8	9.3%
Neutral	5	5.8%
Agree	73	84.9%
<b>Total</b>	<b>86</b>	<b>100.0%</b>

As shown in the table above the majority numbered (73) of the study sample were agreed with the sentence, and individuals representing a rate of (84.9%) of the total sample, followed by individuals whom disagreed with the sentence who numbered (8), and rated (9.3%), and finally

individuals whom disagreed with the sentence who numbered (5) and rated (5.8%) from the total sample

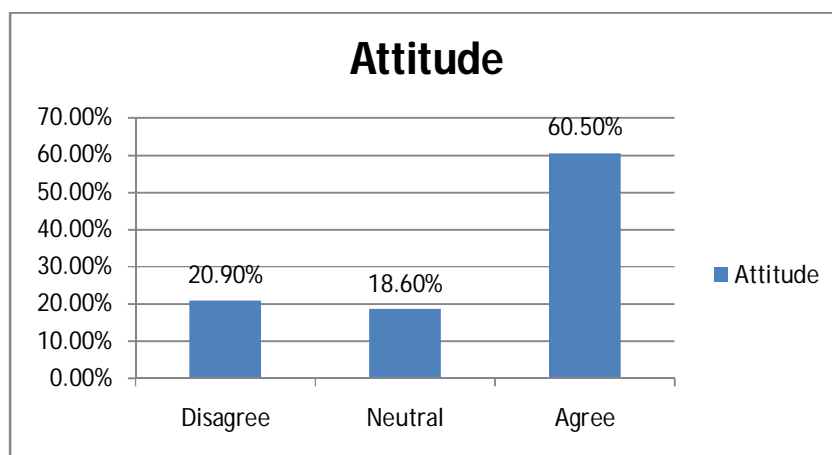
**15-The sentence of question fifteen** (was the organization interest to ensure that the transmission of new knowledge and experience were taking into account the potential loss of skills and expertise of programmers at the experience of outsourcing software development?)

**The first Sentence** (the loss of programmers with expertise and skills was taken into account in the case of outsourcing software development).

Table (80) and figure (66) frequency distribution of the answer of the first sentence.

**Table 80: Responses for the first sentence of Question 15**

Attitude	Frequency	Percent
Disagree	9	20.9%
Neutral	8	18.6%
Agree	26	60.5%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 66: Responses for the first sentence of Question 15.**

As shown in Table (80) and figure (66) the majority numbered (26) of the study sample were agreed with the sentence, and individuals representing a rate of (60.5%) of the total sample, followed by individuals whom

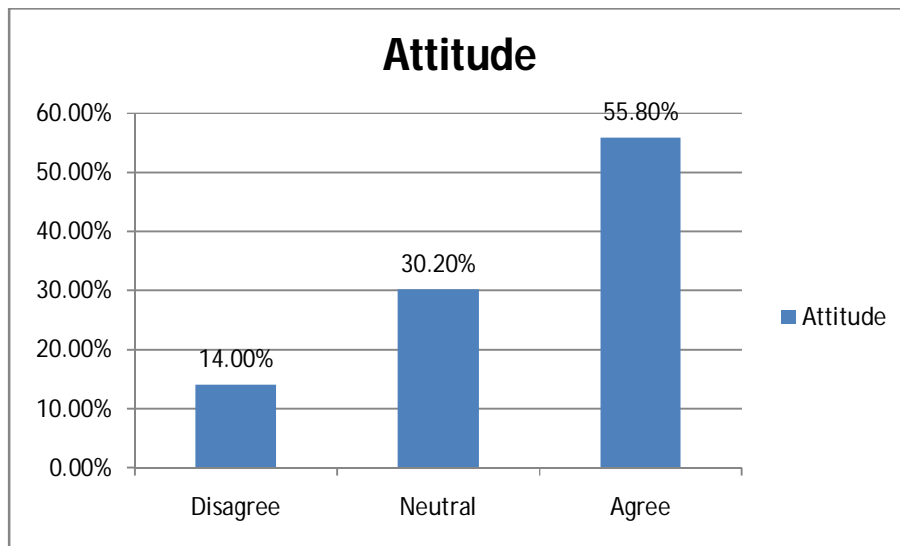
disagreed with the sentence who numbered (9), and rated (30.9%), and finally individuals whom Neutral with the sentence who numbered (8) and rated (18.6%) from the total sample.

**The second Sentence** (There was a guarantee for the transfer of new knowledge and experiences while outsourcing software developing).

Table (81) and figure (67) frequency distribution of the answer of the second sentence.

*Table 81: Responses for the second sentence of Question 15*

Attitude	Frequency	Percent
Disagree	6	14.0%
Neutral	13	30.2%
Agree	24	55.8%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



*Figure 67: Responses for the second sentence of Question 15.*

As shown in Table (81) and figure (67) the majority numbered (24) of the study sample were agreed with the sentence, and individuals representing a rate of (55.8%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (13), and rated (30.9%), and



finally individuals whom disagreed with the sentence who numbered (6) and rated (14.0%) from the total sample.

*The following is the frequency distribution of the all sentences of the question nine:*

**Table 82: Responses for the all sentences of Question 15**

<b>Attitude</b>	<b>Frequency</b>	<b>Percent</b>
Disagree	15	17.4%
Neutral	21	24.4%
Agree	50	58.2%
<b>Total</b>	<b>86</b>	<b>100.0%</b>

Shown the Table above that the majority of the study sample are agree with the sentence, where numbered (50) and individuals representing a rate of (58.2%) of the total sample, and then followed by individuals whom Neutral with the sentence where numbered (21), and (24.4%) of the total sample, and finally individuals whom disagree with the sentence where numbered (15) and (17.4%) from total sample

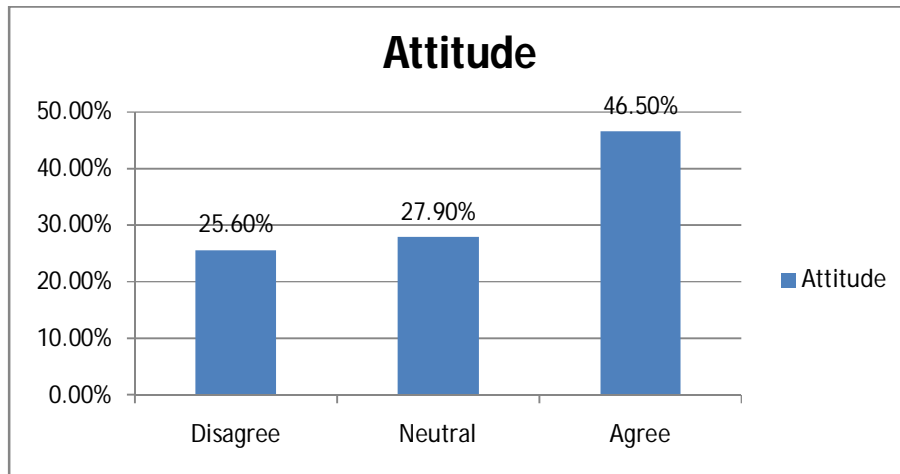
**16-The sentence of a question sixteen** (was the high cost of outsourcing software development meet its reasons?)

**The first Sentence** (was the high cost of outsourcing justified).

Table (83) and figure (68) frequency distribution of the answer of the first sentence.

**Table 83: Responses for the first sentence of Question 8**

<b>Attitude</b>	<b>Frequency</b>	<b>Percent</b>
Disagree	11	25.6%
Neutral	12	27.9%
Agree	20	46.5%
<b>Total</b>	<b>43</b>	<b>100.0%</b>



**Figure 68: Responses for the second sentence of Question 8.**

As shown in Table (83) and figure (68) the majority numbered (20) of the study sample were agreed with the sentence, and individuals representing a rate of (46.5%) of the total sample, followed by individuals whom Neutral with the sentence who numbered (12), and rated (27.9%) of the total sample, and finally individuals whom disagreed with the sentence who numbered (11) and rated (25.6%) from the total sample.

### **3.3.3 Data analysis and answers of the questions:**

We will apply the arithmetic calculation mean for all phrases of each question in the questionnaire to answer the study questions which had been given three classes, class (3) as a weight for each answer "I agree", class (2) as a weight for each answer, "I Neutral", and class (1) as a weight for each answer "I disagree", and also to face the needs and requirements of the statistical analysis and transform the variables to the nominal amount of variables, and make it ready to use the Chi-square test so as to know the significance differences in the study sample phrases answers to each question.

*The following table declared the arithmetic mean and its interpreter, Chi-square, a degree of freedom and the P-value of each question of the questionnaire according to the user point of view:*

*Table 84: declared the arithmetic mean a degree of freedom and the P-value of each question of the questionnaire according to the user point of view*

No of the question	The mean	Interpreter	Chai <sup>2</sup> Value	Degree of freedom	P-value
1	2.7	Agree	43.00	2	0.00
2	2.7	Agree	43.00	2	0.00
3	2.28	Agree	6.875	2	0.03
4	2.198	Neutral	20.33	2	0.00
5	2.41	Agree	62.036	2	0.00
6	2.33	Agree	15.929	2	0.00
7	2.0476	Neutral	7.000	2	0.03

As can be seen from the table above. The value of chi-square calculated for the significance of differences between the number of responses of the first question (was the outsourcing software development in conformity with requirement specifications) (43) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) is ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistically significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Agree),where The value of chi-square calculated for the significance of differences between the number of responses of the second question (does the failure of outsourcing software development result from weak specifications of requirement) was (43) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistically significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor is (Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the third question ( what was the contract ability of outsourcing software development in handling change) was (6.857) ,with degree of freedom (2)

, and the value of error allowed in the sample(P-value) was ( 0.03 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the fourth question (explain if the organization cares of the manual mode for users guideline) was (20.33) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Neutral), where The value of chi-square calculated for the significance of differences between the number of responses of the fifth question ( clarified the extend of attention the organization of end users and usability of the system ) was (62.036) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the sixth question ( what were the technical problems and how to treat them ) was (15.9) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Agree), and The value of chi-square calculated for the significance of differences between the number of responses of the seventh question (what are the reasons that make the experience of outsourcing software development successful in Sudan and what the differences between software produced within Sudan and produced outside Sudan was(7.0) ,with degree of freedom (2 and the value of error allowed in the sample(P-value) was ( 0.03 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Neutral).)

**Table 85: Declared the arithmetic mean and its interpreter, Chi-square, a degree of freedom and the P-value of each question of the questionnaire according to the experts' point of view:**

No of the question	The mean	Interpreter	Chai <sup>2</sup> Value	Degree of freedom	P-value
1	2.412	Agree	91.624	2	0.00
2	2.49	Agree	80.77	2	0.00
3	2.43	Agree	48.5	2	0.00
4	2.67	Agree	33.53	2	0.00
5	2.58	Agree	44.116	2	0.00
6	2.558	Agree	83.86	2	0.00
7	1.81	Neutral	5.209	2	0.074
8	2.668	Agree	142.68	2	0.00
9	2.51	Agree	55.67	2	0.00
10	2.34	Agree	27.76	2	0.00
11	2.53	Agree	57.07	2	0.00
12	2.209	Neutral	11.605	2	0.003
13	2.75	Agree	103.00	2	0.00
14	2.40	Agree	24.44	2	0.00
15	2.209	Neutral	3.395	2	0.183

What can be seen from the table above was. that the value of chi-square calculated for the significance of differences between the number of responses of the first question (was the outsourcing software development in conformity with requirement specifications) was (91.624) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance

( 5 % ) between the answers and the answers in favor was (Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the second question (Does the organization find a partner that trust and establish contract models that make sense ) was (80.77) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the third question (was outsourcing software development in conformity with required specification ) was (48.5) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicates a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the fourth question (Did the failure of outsourcing development result from weak specification of requirements ) was (33.53) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the fifth question (was there any relation between efficiency and effectiveness of software outsourcing development ) was (44.116) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical

significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was(Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the sixth question (were there any obstacle that effect outsourcing software development ) was (83.86) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was(Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the seventh question (was the failure of outsourcing software development due to lack of skills and abilities of users ) was(5.209) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.074 ) which was greater than the level of significance (0.05) - it indicates a statistical significant difference , and at a level of significance ( 5 % ) between the answers , where The value of chi-square calculated for the significance of differences between the number of responses of the eighth question (clarify if failure of outsourcing software development a result of failure in decision process ) was(142.68) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the ninth question (Does the organization assess and measure the performance ) is (55.67) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) is ( 0.00 ) which is less than the level of significance (0.05) - it indicates a statistical significant difference , and at a level of

significance ( 5 % ) between the answers and the answers in favor was (Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the tenth question (were there any strict security guideline for outsourcing software development and policies ) was (27.76) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the eleventh question (what was the ability of contract of outsourcing software development in handling change) was (57.07) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was(Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the twelfth question (clarify the extent of attention the organization of end user and usability) was (11.605) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.003 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was(Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the thirteen question (was the decision made to apply outsourcing according to the considerable need, and whether the institution was the study of subject in scientific manner before the introduction of outsourcing ) was(103.00) ,with degree of freedom (2) , and the value of error allowed in the



sample(P-value) was( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was(Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the fourteen question was the organization interest to ensure that the transmission of new knowledge and experience and take into account the potential loss of skills and expertise of programmers at experience of outsourcing software development ) was(24.44) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was ( 0.00 ) which was less than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers and the answers in favor was (Agree), where The value of chi-square calculated for the significance of differences between the number of responses of the fifteen question (*was the high cost of outsourcing software development meet its reasons* ) was(3.395) ,with degree of freedom (2) , and the value of error allowed in the sample(P-value) was( 0.183 ) which was greater than the level of significance (0.05) - it indicated a statistical significant difference , and at a level of significance ( 5 % ) between the answers .