Al-Azhar University

Faculty Of Engineering & Information Technology

Department Of Software Engineering

HUMAN-COMPUTER INTERACTION

Google Schooler Project

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Supervised By

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Contents of Report:

1.Overview

1.1 Introduction

This report aims to analyze the human-computer interaction (HCI) of Google Scholar. In order to do so, we ask participants to complete a questionnaire about their experience with Google Scholar. Our five-part questionnaire includes questions about the usefulness of Google Scholar, the ease of use of Google Scholar, how efficient they expect Google Scholar to be, how easy it would be to learn to use Google Scholar, and whether they trust Google Scholar.

1.2. Participants

- Haytham Akram Salama
- Yusuf Nafez Abu Msabeh
- Oday Mazen Abu Mettleq
- MohammedNader Ahed Al Ghussin
- Anas Adel Ouda

1.3. Questionnaire

#	Statement	Your Opinion				
Perceived Usefulness		**Strongly agree**	**Agree**	**Neutral**	**Disagree**	Strongly Disagree
1	**I find the UI of Google Scholar simple and pretty**					
2	**I find Google Scholar components such as My library useful in the arrangement of what I publish.**					
3	**I find the features are visible on all pages when I changed the languages**					
4	**I find the features are visible on all pages when I changed the languages**					
5	**I find Google Scholar useful to find articles and research in order**					
#	Statement	Your Opinion				
Perceived Ease of Use		**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
1	**I spend more than 5 minutes creating an account on Google Scholar.**					
2	**I spend more than 5 minutes publishing my first research on Google Scholar.**					

#		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
3	I spend more than 5 minutes getting related results.					
4	I spend more than 5 minutes configuring my profile account on Google Scholar.					
5	I spend more than 5 minutes creating an account on Google Scholar.					

#	Statement	Your Opinion				
Efficiency expectation		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
1	The articles that i got are the desired results.					
2	I find the hints that appear when using the search bar are useful.					
3	I find the search engine is fast in showing the results as an average of 0.05 seconds					
4	I got related results about the topic.					
5	I used alert and worked as expected.					

#	Statement	Your Opinion				
Learnability		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
	Google Scholar's simple interface helps me learn faster.					

#	Statement	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
	It was easy to use Google Scholar when I first encountered the interface.					
	Google Scholar's search engine provides any article I'm looking for.					
	I reached optimal behavior with Google Scholar faster than other learning websites.					
	It took 10 minutes for me to learn how to reach the article I was looking for.					

#	Statement	Your Opinion				
Trust		Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
1	Google Scholar's information is trustworthy.					
2	Google Scholar has a discrepancy in the information.					
3	I trust that Google Scholar will not share any sensitive information with anyone.					

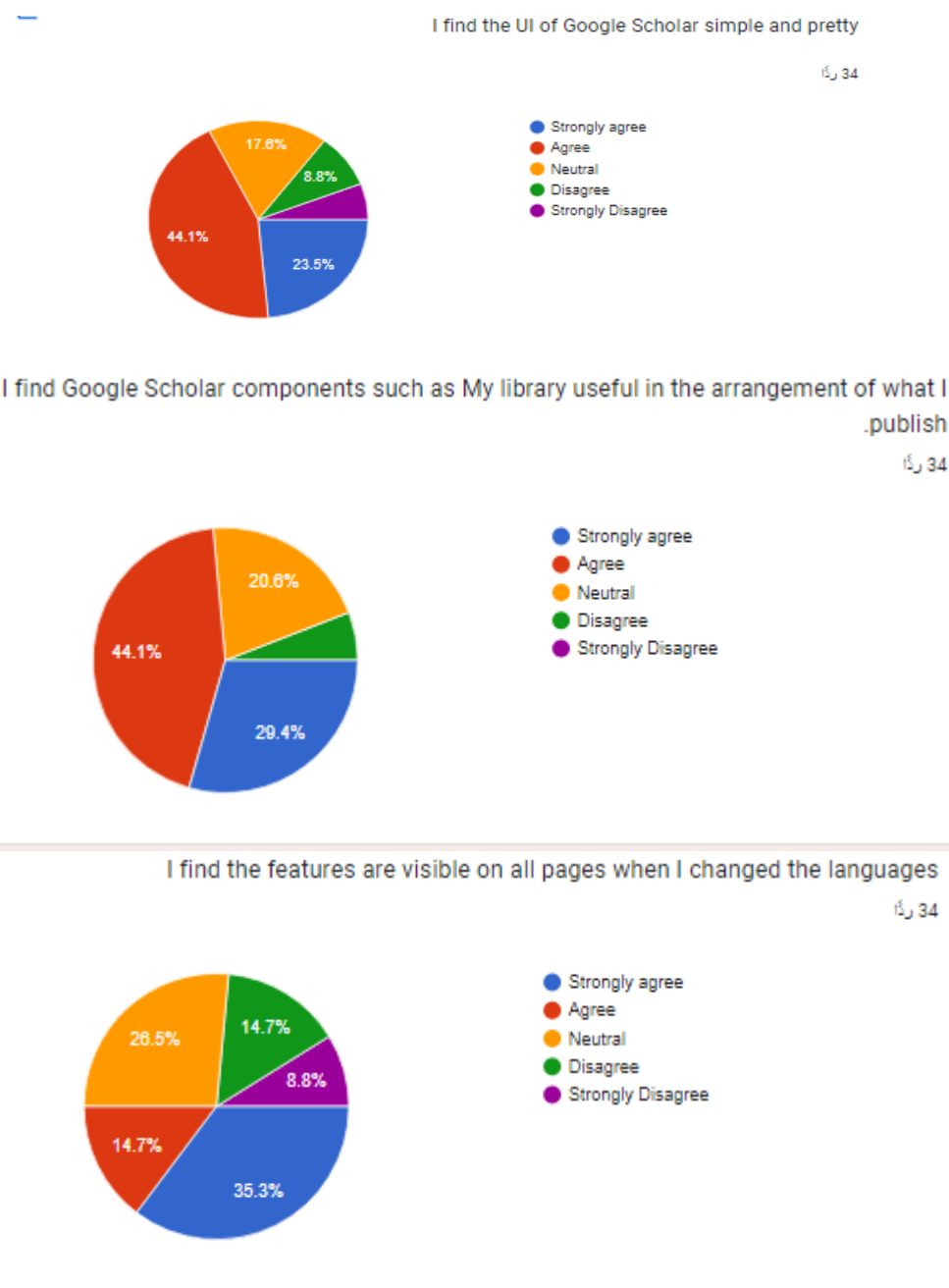| 4	Google Scholar does not have a difference in information compared with other platforms or websites.					
5	I feel confident enough for Google Scholar to take desirable actions.					

2. Data Collection

2.1 Responses

Since there are 25 questions and 34 responses for each question, the response table is too large. We attached the CSV file of the responses that we directly downloaded from the questionnaire on Blackboard with this document.
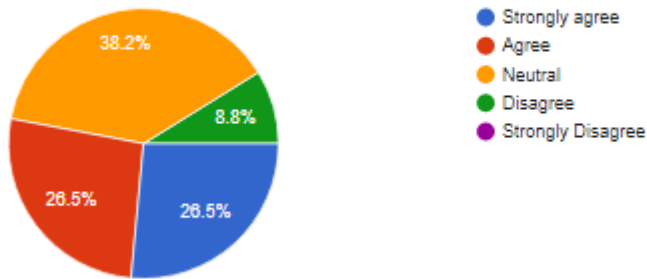
2.2 Graph Results

2.2.1 Perceived Usefulness

I find the UI of Google Scholar simple and pretty

34 ردًا

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

17.6%
8.8%
44.1%
23.5%

I find Google Scholar components such as My library useful in the arrangement of what I publish.

34 ردًا

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

20.6%
44.1%
29.4%

I find the features are visible on all pages when I changed the languages

34 ردًا

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

14.7%
26.5%
8.8%
14.7%
35.3%

I find Google Scholar useful to find articles and research in order

34 رپ

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

38.2%
8.8%
26.5%
26.5%

2.2.2 Perceived Ease of Use

I spend more than 5 minutes creating an account on Google Scholar.

34 responses

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

29.4%
32.4%
11.8%
23.5%
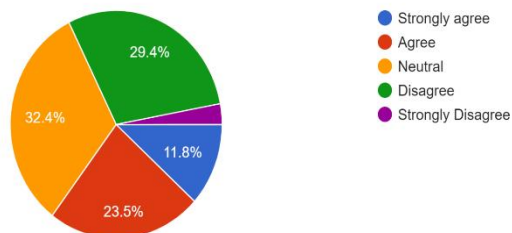
I spend more than 5 minutes getting related results.

34 responses
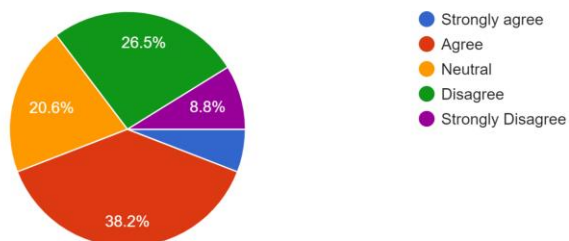
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

26.5%
20.6%
8.8%
38.2%

I spend more than 5 minutes configuring my profile account on Google Scholar.

34 responses

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

35.3%
11.8%
20.6%
29.4%

I spend more than 5 minutes creating an account on Google Scholar.
34 responses

20.6%	● Strongly agree
29.4%	● Agree
11.8%	● Neutral
32.4%	● Disagree
	● Strongly Disagree

I spend more than 5 minutes publishing my first research on Google Scholar.
34 responses

20.6%	● Strongly agree
35.3%	● Agree
8.8%	● Neutral
32.4%	● Disagree
	● Strongly Disagree
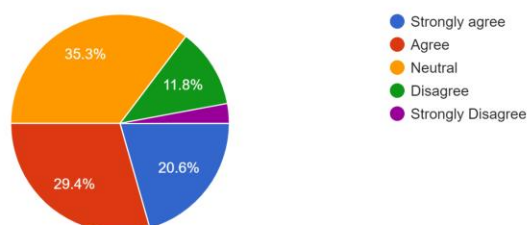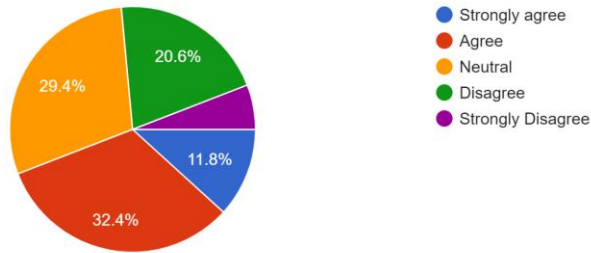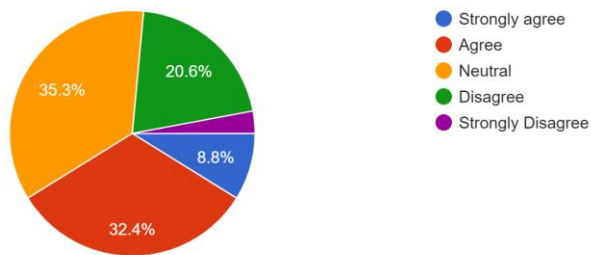
2.2.3 Efficiency expectation

I find the hints that appear when using the search bar are useful.
34 responses

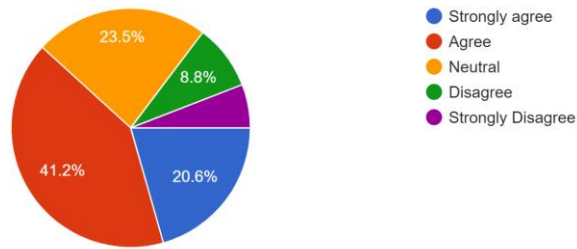|	
17.6%	● Strongly agree
35.3%	● Agree
14.7%	● Neutral
29.4%	● Disagree
	● Strongly Disagree
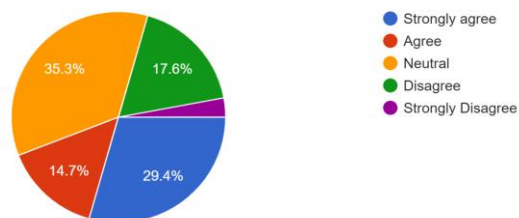
The article that I got are the desired results.
34 responses

20.6%	● Strongly agree
17.6%	● Agree
29.4%	● Neutral
32.4%	● Disagree
	● Strongly Disagree
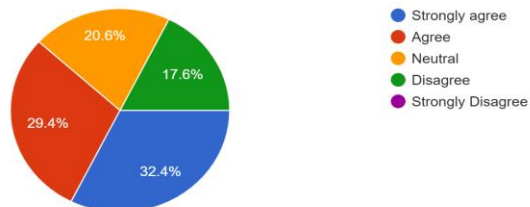
I got related results about the topic.
34 responses

- ● Strongly agree
- ● Agree
- ● Neutral
- ● Disagree
- ● Strongly Disagree

23.5%
8.8%
41.2%
20.6%

I find the search engine is fast in showing the results as an average of 0.05 seconds
34 responses

- ● Strongly agree
- ● Agree
- ● Neutral
- ● Disagree
- ● Strongly Disagree

29.4%
11.8%
20.6%
32.4%
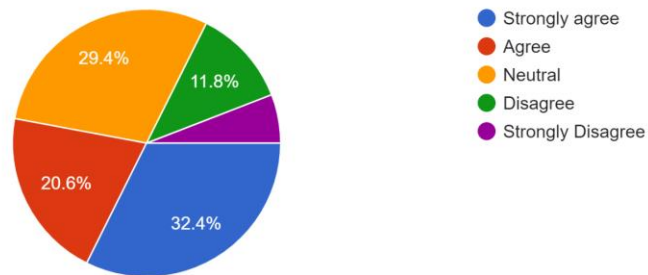
I used alert and worked as expected.
34 responses

- ● Strongly agree
- ● Agree
- ● Neutral
- ● Disagree
- ● Strongly Disagree

41.2%
32.4%
23.5%
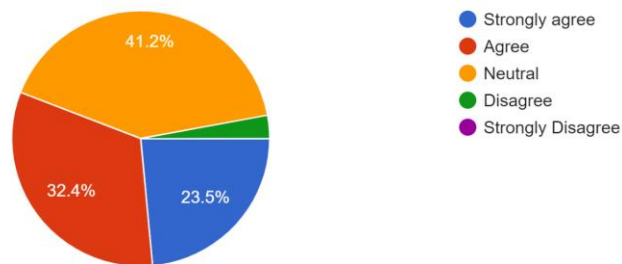
2.4   Learnability

Google Scholar's simple interface helps me learn faster.
34 responses

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

29.4%
11.8%
32.4%
26.5%
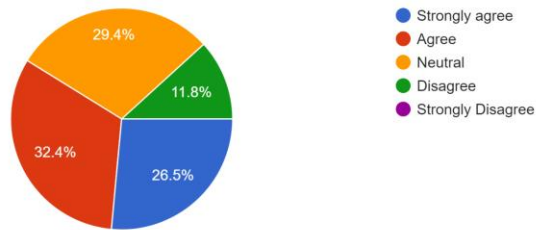
It was easy to use Google Scholar when I first encountered the interface.
34 responses
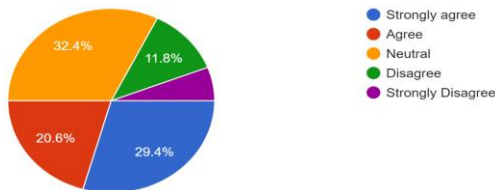
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

32.4%
11.8%
20.6%
29.4%

Google Scholar's search engine provides any article I'm looking for.
34 responses

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

32.4%
11.8%
26.5%
29.4%
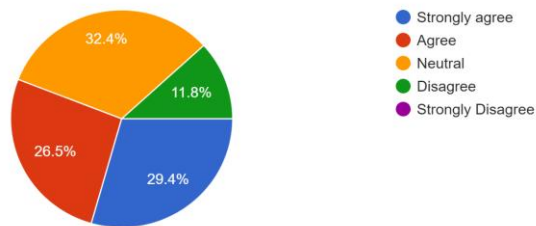
I reached optimal behavior with Google Scholar faster than other learning websites.
34 responses
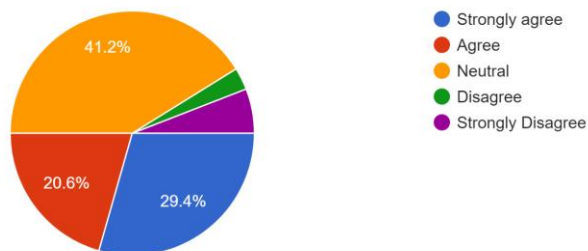
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

41.2%
20.6%
29.4%

It took 10 minutes for me to learn how to reach the article I was looking for.
34 responses

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

23.5%
26.5%
23.5%
20.6%
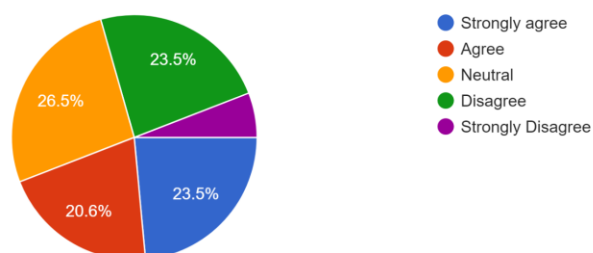
2.2.5 Trust

Google Scholar's information is trustworthy.
34 responses

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

17.6%
8.8%
29.4%
38.2%
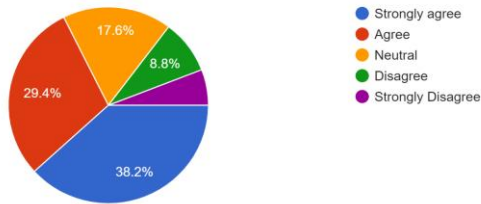
Google Scholar has a discrepancy in the information.
34 responses

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

41.2%
11.8%
14.7%
26.5%
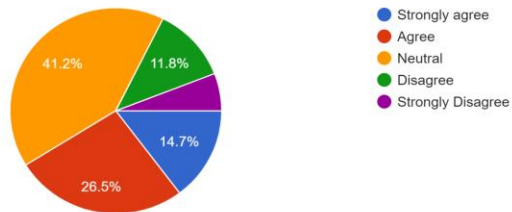
I trust that Google Scholar will not share any sensitive information with anyone.
34 responses
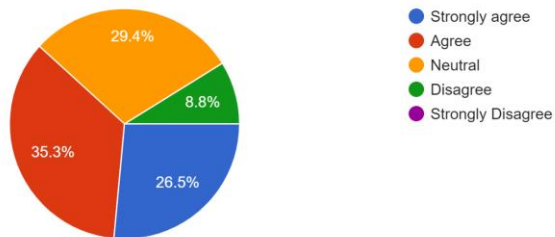
- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

29.4%
8.8%
35.3%
26.5%

Google Scholar does not have a difference in information compared with other platforms or websites.
34 responses

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

26.5%
20.6%
14.7%
35.3%
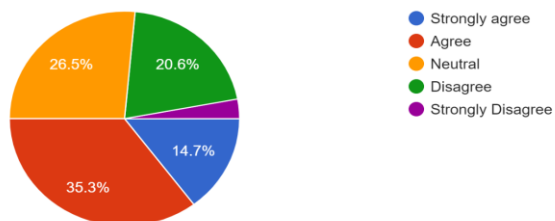
I feel confident enough for Google Scholar to take desirable actions.
34 responses

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

29.4%
47.1%
20.6%
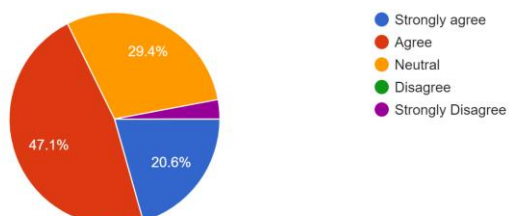
3.1 Discussion

3.1.1 Perceived Usefulness

Firstly, (67.5%) of people **agreed** that Google Scholar has a beautiful UI, while (8.7%) disagreed, and (17%) were neutral.

Secondly, (72.5%) of people agreed that Google Scholar has useful components such as My Library for the user, while (20%) were neutral and (5%) disagreed.

Thirdly, (50%) of people saw that there is no difference in the features of the site when the user changes the language, but a huge number, (24%), found that there are some features that appear in one language but not in another.

Fourthly, (51%) of people found Google Scholar useful to find articles and research quickly, (38%) found it normal, such as a normal Google search engine, and just (8.8%) found it difficult to find them.

3.1.2 Perceived Ease of Use

Firstly, the majority of people (35.3%) agreed that they spend more than 5 minutes creating an account on Google Scholar while (32.3%) disagreed and (32.4%) were neutral.

Secondly, (41.2%) of the people agreed that they spend more than 5 minutes publishing their first research on Google Scholar. while, (35.3%) were neutral, and (23.5%) disagreed.

Thirdly, (44.1%) of the total people agreed that spend more than 5 minutes getting related results. On other hand, while (35.3%) disagreed, and (20.6%) were neutral,

Fourthly, (50%) of the total people agreed that spend more than 5 minutes configuring their profile account on Google Scholar. On other hand, (35.3%) were neutral, and (20.6%) disagreed.

Finally, (44.2%) of the total people agreed that spend more than 5 minutes creating an account on Google Scholar. On another hand, (26.5%) agreed, and (29.4%) were neutral.

3.1.3   Efficiency expectation

Firstly, the majority of people (61.8%) agree that they got the desired results while (17.6%) disagreed and (17.6%) were natural.

Secondly, (35.3%) of the people were neutral that they found the hints that appeared when using the search bar useful. while, (44.1%) agreed, and (20.5%) disagreed.

Thirdly, (53%) of the total people agreed that they found the search engine is fast enough. On the other hand, (29.4%) were neutral, and (17.7%) disagreed.

Fourthly, (23.5%) of the total people were neutral that they got other results that related to the topic. On other hand, (61.8%) agreed, and (14.4%) disagreed.

Finally, (41.2%) of the total people were neutral that they used the alerts and worked as expected. On another hand, (55.9%) agreed, and (2.9%) disagreed

3.1.4   Learnability

Firstly, the majority of people (58.9%) agreed that Google Scholar's simple interface helps them learn faster, while (11.8%) people disagreed and (29.4%) were neutral.

Secondly, (50%) of the people who participated in the questionnaire agreed that it was easy to use Google Scholar when they first encountered the interface, while (32.4%) were neutral and 17.7% disagreed.

Thirdly, (55.9%) of the total people agreed that Google Scholar's search engine provides any article they were looking for, on the other hand (11.8 %) disagreed, and (32.4%) were neutral.

Fourthly, (41.2%) of the people that participated in the questionnaire reached optimal behavior with Google Scholar faster than other websites. At the same time, (41.2%) were neutral, and (38.8%) people disagreed and reached optimal behavior faster on other websites.

Finally, (44.1%) of people took 10 minutes to learn how to reach the article they were looking for, on the other hand, (29.4%) disagreed with the question, and (26.5%) were neutral.

3.1.5   Trust

Firstly, the majority of people (67.6%) agreed that Google Scholar's information is trustworthy., while (8.8%) people disagreed and (17.6%) were neutral.

Secondly, (41.2%) of the people who participated in the questionnaire agreed that Google scholar has a discrepancy in information, while (41.2%) were neutral and (17.6%) disagreed.

Thirdly, (61.8%) of the total people trust that Google Scholar will not share any sensitive information with anyone, on the other hand (8.8 %) disagreed, and (29.4%) were neutral.

Fourthly, (26.5%) of the total people were neutral that Google Scholar does not have any difference in information compared with other platforms or websites. On other hand, (50%) agreed, and (20.6%) disagreed.

Finally, (67.7%) of people feel confident enough for Google Scholar to take desirable actions beyond them, on the other hand, (2.9%) disagreed with the question, and (29.4%) were neutral.

3.2 Results

Perceived Usefulness	Mean	Mode	Median
Q1	3.529411765	4	4
Q2	3.852941176	4	4
Q3	3.235294118	2	3.5
Q4	3.529411765	2	4
Q5	3.152941176	2	3.5

Perceived Ease of Use	Mean	Mode	Median
Q1	2.529411765	2	3
Q2	2.823529412	2	3
Q3	2.529411765	4	3
Q4	3.294117647	2	3.5
Q5	2.823529412	4	3

Efficiency expectation	Mean	Mode	Median
Q1	3.411764706	2	4
Q2	3.147058824	2	3
Q3	3.382352941	2	4
Q4	3.441176471	4	4
Q5	3.705882353	2	4

Learnability	Mean	Mode	Median
Q1	3.5	4	4
Q2	3.323529412	2	3.5
Q3	3.5	2	4
Q4	3.588235294	2	3.5
Q5	2.852941176	2	3

Trust	Mean	Mode	Median
Q1	3.676470588	2	4
Q2	3.088235294	2	3
Q3	3.617647059	4	4
Q4	2.970588235	4	3.5
Q5	2.970588235	4	4

4.　Conclusion

To summarize our study, the questionnaire we conducted with 34 people showed us the followings:

- Most users found Google Scholar GUI beautiful.
- Most users found Google Scholar useful to search for articles.
- Most users found Google Scholar easy to create an account and configure it.
- Most users found Google Scholar easy to create an account and configure it.
- Most users found Google Scholar easy to search to get related results.
- Users are happy and satisfied with the results
- Most users found that the alert function is working well and as expected
- Users are happy with the learnability of Google Scholar and find it simple.
- Google Scholar's simple interface made a huge difference in making the website more learnable.
- Most users trust the information provided by Google Scholar
- 80% of the users feel confident enough for Google Scholar to take actions beyond them.