The Usage of Information and Communication Technology (ICT) by Agricultural Extension Agents working in Agricultural Extension work in Nineveh Governorate

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Abstract

The Study Aimed at Determining the usage of Communication and information technologies by extension workers in Nineveh Governorate in general as well as the of use of computers, the Internet, and mobile phones to Determine the correlation between the degree of use and the phones to Determine the correlation between the degree of use and the variables studied between and all the variables the frequency of use. In addition to Determining the regression relationship studied. The research was conducted on a sample of 125 employees, representing the target population. The data was collected using a personal interview and survey form. It is made up of three parts. Its reliability reached (0.91). It was distributed during November 2021. The data were analyzed using Spss statistical program. The results showed: That extent of use of communication technologies and information is described as the average tending to rise . Department workers are classified into three cateories:Workers with low usage rate (19.4%) workers with an average usage rate (47.6%) workers with high usage rate (33%).

The degree of use of communication technologies and information among workers of agricultural extension in Nineveh province in general amouted to (71%) ,Divided into three communication technologies: (28%)of the internet , (26%) of computers and(17%) of the mobile phone. The results showed that three is a significant correlation at the level (0.01) between the degree of use of communication technologies and information and all personal and functional variables studied.The results also showed that the most important obstacles facing the use of communication and information of communication and information technologies by extension work in the province of Nineveh were (weakness and frequent interruptions in communication networks and the internet) and the degree of disability for use of (11.5%).

Technologies For regression analysis in-service training in the field of communication technologies and information represented (46%) and the effect of all the phenomenon of variables was increased to (54)

Keywords:

DOI Number: 10.14704/nq.2022.20.6. NQ22479 NeuroQuantology 2022; 20(6):4777-4788

Introduction and the problem research

The agricultural sector is one of the most dependent sectors of developed and developing countries to respond to the daily demands of individuals in their societies, and to achieve sustainable development, so the Arab countries have done everything in their power to focus intensively on this important sector. (Khalidi and Akram, 2014:1) Agricultural extension is one of the most important educational communication devices that contribute to the success and development of the agricultural sector and thus achieve comprehensive development and enable its importance in the transfer of ideas, innovations and modern agricultural practices, and the conversion of research results to farmers in a usable way and convince them to adopt them and apply them in order to achieve high productivity and progress in the level of their education. (Abdul

Wahid, 2015:1)The main objective of agricultural extension as an educational system is to bring about behavioral changes desirable in knowledge, skills and attitudes, and since agricultural extension works in its various fields individuals varying in social and economic characteristics as well as experiences and ability to understand and understand, agricultural extension had to be diversified from its methods and methods in order to be able to cover this disparity, as well as the great benefits that diversification provides in the process of scientific diffusion and practical agricultural techniques to the Extension public. The purpose of the multiplicity and diversity of extension means is to ensure that each member of the audience Extension by the ideas and techniques provided by the agricultural extension is influenced by modern ideas and techniques, if an individual can not respond and is not affected by a particular method of extension and influenced by another. (Jassim, 2011: 2)Because we live today in a world that is witnessing successive revolutions in the telecommunications and informatics sector, no country can aspire to achieve sustainable development at all levels, without communication and information technologies being one of its pillars, where the Internet provides enormous uses that enable the exchange of information, experiences and experiences within the framework of freedom of expression and improvement of ideas and performance, (Al Gamal and Abdul Rahim, 2015: 2-4) After the spread and diversity of modern communication technologies and their development and increased users to the number of Internet users in the world in 2022 about five billion users, representing 63% of the world's population, of which the total was the use of social media alone reached 4.65 billion users (Statista,2022:On line) These rapid changes, coupled with the usual problems of traditional agricultural extension, combined with poor levels of agricultural extension workers and poor extension activities, with the delay in the flow of agricultural information from its resources to farmers making the traditional agricultural extension system weak and unable to achieve its objectives. (Abdul Wahid, 2015: 130) And therefore the attitude has been to use methods of guided communication through modern communication and information technologies (electronic extension) to overcome the difficulties facing traditional extension methods, And increase its effectiveness, (Alhlo and others,2018:3) and the concept of electronic agricultural extension expresses extension via the internet space Extension cyber (E-) and the internet space is a virtual space for a group of computers connected to each other to form a network that passes around the world and the caller or user can get information in the form of multimedia Text messages, graphs, audio clips, videos, photos. (Abdul Wahid, 2015: 127) Communication techniques are means of communication that have been applied in the field of agricultural extension in order to be able to overcome many of the indicative problems and open wide channels of communication to serve the agricultural extension sector, disseminate the agricultural ideas developed for all rural areas, transfer agricultural information and knowledge in a timely manner, increase the opportunity of farmers to reach the results of agricultural research, and the possibility of ngo participation in providing extension service and connecting farmers' problems to specialists to devise appropriate solutions to improve Living conditions for rural people. (Abdul Wahid,2007:15) Nineveh Governorate is considered one of the most important areas suitable for agricultural production in Iraq, because of its advantages to grow many types of crops and grains, and is considered one of the most productive areas for wheat and barley crops where its production (60%) represents the production of Iraq in addition to its geographical environment suitable for grazing livestock and raising animals and poultry (Wikipedia), but the Governorate today faces many obstacles that led to the migration of many farmers and breeders and left them to work in this aspect, (Almadapapxer,2021: On line) and these constraints related to drought and desertification as well as the impact of the security and economic crises experienced by the Governorate in addition to these reasons, the weak role of agricultural extension in achieving the goals set for the development of agricultural production in the Governorate contributed significantly to a change in the number of farmers in the Governorate as well as the decline in the overall agricultural productivity of the Governorate as agricultural extension in the Governorate and the whole of Iraq suffers from problems in the performance of its tasks and these problems are similar to the

eISSN 1303-5150

problems of extension Agriculture in the Arab surrounding Iraq, including: the weakness of the agricultural extension system used in the delivery of agricultural information and technical recommendations to the farmers' public, continued to eat its functional apparatus due to the retirement of a large number of them by reaching retirement age and not compensating new agricultural guides, lack of qualification and training for agricultural extension workers to keep up with developments and progress in the use of communication and information technologies, the weakness of the relationship between scientific research institutions and the agricultural extension system, Poor trust between agricultural guides and agricultural producers leads to poor service. (Abdul Wahid, 2015:3-4) The spread of epidemics and diseases, especially the pandemic (Covid 19), which contributed to the siege of field extension work. (Al Judge And Aft,2022: 2)The agricultural extension system has evolved within the strategy of agricultural development and following in the footsteps of developed countries and keeping pace with the changes taking place, where agricultural extension in the Arab countries began to replace alternative technological means such as communication technologies such as computers, internet and smartphone to keep up with developments in the field of electronic communication and avoid the acute shortage of agricultural guides, and provide appropriate extension services to the farmers' audience (Abdul Wahid,2015: 4) In addition, there are few indicative studies indicating the use of communication and information techniques in the extension work in Iraq. In addition to the presence of extension bodies in the Governorate represented by the departments and units of agricultural extension in the Directorate of Agriculture of Nineveh and its agricultural people and in the centers of training and agricultural extension, the problem of study can be highlighted through the following research questions:

1- What is the degree to which agricultural extension workers in Nineveh Governorate use communication and information techniques in general?

2- What is the degree of use of agricultural extension workers in Nineveh Governorate in each of the fields of study, namely the field of computers? The internet domain? The mobile phone field?

3- What is the correlation between the degree of use of communication techniques by agricultural extension workers and the following personal and functional variables (age, academic qualification, in-service training, orientation of workers towards the use of communication techniques and modern information in indicative work?

4- What are the most powerful variables and impact on the degree of use of communication and information techniques?

5- What are the obstacles to the use of communication techniques in indicative work?

Research
Objectives:

1-Determining the degree to which agricultural extension workers usage communication and information techniques in the extension work in Nineveh Governorate in general.

2- Determining the degree of use of agricultural extension workers for communication and information techniques in the indicative work in Nineveh governorate in each of the following areas of study: (computer, internet, mobile phone).

3- Identifying the correlation between the degree of usage of communication and information techniques and some independent variables studied.

4- Determining the regression relationship between the degree to which agricultural extension workers use communication and information techniques in indicative work and a number of factors studied.

5- Identifying the obstacles faced by workers in Nineveh Governorate when using communication and information techniques in indicative work.

Materials and methods of work: (method of conducting the research)

Research Population and sample

The research Population included all the 125 agricultural workers working in Nineveh province, including the research population, distributed in the Nineveh Agriculture Directorate and its agricultural divisions of 31 agricultural divisions, in addition to the agricultural extension and training

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centers in the govern ate, and the comprehensive research population was taken by 100%, bringing the number of workers who underwent research procedures (125) to be erased where the required data from agricultural extension workers in Nineveh Governorate were collected in each of the following areas (computer) Automated, internet, mobile phones) to access agricultural information and conduct indicative work, in light of the proliferation of communication technologies and modern information in rural areas, centers, departments and all government agricultural people have neglected (2) forms due to incompleteness.

The method of data collection and analysis

A questionnaire form was designed in accordance with the objectives of the research and a preliminary pre-test test was conducted on 20 research workers in agricultural extension in Nineveh province, and the necessary modifications were made to achieve the research objectives in its final form, and the data was collected through the personal interview of the researchers in November 2021, and through access to literature and previous studies related: (Al Judge and Affat, 2022 (Salim and Others,2021) (Gow,2020)(Al Hamdani, 2020) (Sharif, 2019) (Tata,2018) (Alhlo,2018) (Suleiman and others, 2017) (Abdul Wahid, 2015) in the field of communication and information techniques as well as consulting experts in this field, The data was displayed and analyzed statistically by finding (range, repetitions, percentages, arithmetic average, standard deviation, t test, half retail, and spearman brown equation, pearson simple link coefficient test and Spearman grade link factor, And the equation of regression analysis.

Measurement of search variables

1- Measuring personal and functional variables: -

A- Age: Raw numbers were used and ages divided into three categories (26-36) years (37-47) years (48-58) years.

B - Academic qualification: the respondents were divided into six categories (a) agricultural preparatory (b) agricultural institute (t) bachelor (w) high diploma (h) master (c) doctoral degree. C- In-service training: Measured by a question: Did you participate in courses related to the use of modern communication and information technologies? According to the number of training courses they received, the participants were divided into three categories (not one) (1-2 courses) (3-and more).

D- The attitude of the Extension workers towards the use of communication and information techniques by indicative work: it was measured through 10 paragraphs and placed in front of each phrase three alternatives: (OK) Neutral, non-agreeing) and the following digital values (1.2.3) for positive paragraphs and (3.2.1) for negative paragraphs were given, so the values expressing this variable are limited to 10-30.

2—Measuring dependable variable:-

A measure has been prepared to measure the variable of the following (use of communication and information techniques among agricultural extension workers in Nineveh province) as well as to determine the link between use with variables related to the personal and functional characteristics of the researchers: a scale of (54) paragraphs was prepared spread over three areas : (20 for computer,20 for internet,14 for mobile phone) and quadruple scale of four alternatives: (always use, Sometimes, use rarely, not use, estimates (4, 3, 2, 1) respectively are made to measure the extent and degree of use of communication technologies. Thirdly- To identify the most prominent obstacles facing workers with extension in the use of communication techniques a measure of (8) paragraphs was prepared, where the following alternatives were used (small, medium, large) to answer the most prominent obstacles faced by workers in the use of communication and information technologies and the following digital values were allocated (1, 2, 3) respectively.

Results and discussion

The first objective: to determine the degree of use of agricultural extension workers for communication and information techniques by indicative work in Nineveh Governorate in general: the research results showed that the highest digital value obtained by workers in the use of communication and information techniques was (216) and the lowest value is (74) and a standard deviation of (31.45) and an average calculation of values (155.03) and the workers were divided into three categories using the law of

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the range (low use category, Medium-use class, high-use class) as shown in Table (1).

Table (1): Distribution of workers by degree of use of communication and information techniques for indicative work in Nineveh Governorate in general.

	Categories	Repetition	%	The arithmetic mean	degree of use
1	(74-121) Low	20	19.4	109.3	16%
2	(122-169) Average	49	47.6	155.04	24%
3	(170-and more) High	34	33	193.8	31%
s.d =31.45		103	100	The arithmetic mean of the variable=155.03	Total degree of use= 71%

emergency conditions we are experiencing from the spread of epidemics, diseases and other compelling conditions that led to the siege of field extension work and the adoption of modern means of communication as an alternative to access to farmers. The second objective: to know the degree of use of agricultural extension workers for communication and information techniques in the extension work in Nineveh Governorate in each area of the study: and for the purpose of knowing the degree of use in each field showed the results: - A - the degree of use of the computer in the indicative work: the results showed that the highest value number Computer workers received a turnover of 80 and the lowest digital value (24), standard deviation (13.22) and an average of (57.84) and workers were divided into three categories in accordance with the Term Act. As shown in the following table.

Table 1 shows that the degree of use of communication and information techniques in general was (71%) and that the highest percentage of employees was (47.6%) in the middle category of the extent to which communication and information techniques are used in indicative work with a degree of use (24%), followed by the high category (24%).(33%) and the degree of use (31%), while the category recently reduced by (19.4%) and the degree of use (16%) so that the extent to which workers use communication and information techniques in the indicative work in Nineveh Governorate can be described as * average tends to rise where The percentage of workers in the middle and high categories (80.6%) may be due to developments in the entry of electronic extension as a key factor in the indicative work of agricultural development events in the Governorate as well as the

Table (2): The distribution of employees by degree of use of the computer in the indicative work.

	Categories	Repetition	%	The arithmetic mean	degree of use
1	(24-42) Low	12	1.7	41.33	6%
2	(43-61) Average	47	45.6	57.74	9%
3	(62-80) High	44	42.7	72.52	11%
S.D =13.22		103	100	The arithmetic mean of the variable= 57.84	The degree of computer use=26%

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computers and technical requirements for the development of work in addition to the development of the capabilities of computer workers through continuous courses in software such as Excel, Word.

B- The degree of use of the Internet in indicative work: the results showed that the highest value obtained by internet workers (80) and the lowest value of the number (30) and a standard deviation of (12.34) and an average account amounted to (60.80) and the workers were divided into three categories according to the law of range and as shown in the following table.

The results of table 4 show that the degree of use of computers was (26%) and the middle category was the highest by 45.6% and with a usage of (9%), followed by the high category by 42.7% and the degree of use (11%) and then the category of A decrease of 11.7% and a utilization rate of (6%) that the extent of use of computers in indicative work can be described as *average tends to rise where the proportion of workers in the middle and high categories (88.3%), which means that the majority of employees use the computer and this It may be due to the government's interest in providing all agricultural departments with

Table (3): Distribution of employees by degree of use of the Internet in indicative work.

	Categories	Repetition	%	The arithmetic mean	degree of use
1	(30-46) Low	7	6.8	47.32	7%
2	(47-63) Average	53	51.4	59.02	9%
3	(64-80) High	43	41.8	68.02	12%
S.d= 12.34		103	100	The arithmetic mean of the variable=60.80	The degree of internet use=28%

workers use the Internet and this may be due to To the spread of the Internet in the community, especially social media.

C- The degree of use of mobile phones in indicative work. The results showed that the highest digital value obtained by the workers (56) and that the lowest digital value (20) and a standard deviation of (10.03) and an average account (36.40) and the employees were divided into three categories according to the term law and as shown in the following table.

The results of table 3 showed that the level of internet use was (28%) and the middle group came first by the percentage of workers and reached (51.4%) and the degree of use (9%) followed by the high category (41.8%) and the degree of use (12%) The lowest category came after it (6.8%) and the degree of use (7%) that the extent of use of the Internet is described as average tends to rise where the proportion of workers in the middle and high categories (93.2%), which means that the vast majority of

Table (4): Distribution of employees by degree of mobile phone use in indicative work.

	Categories	Repetition	%	The arithmetic mean	degree of use
1	(20-32) Low	21	20.4	25.05	4%
2	(33-45) Average	45	43.7	37.39	6%
3	(46- and more) High	37	35.9	56.46	7%
S.D= 10.03		103	100	The arithmetic mean of the variable=36.4	The degree of mobile phone use=17%

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agricultural damages are widespread or report decisions issued by the responsible authorities to the farmers.

The Third objective: - Determining the correlation between the degree of use of communication and information techniques with each of the following personal and functional variables: 1- age: The results showed that the oldest workers (58) years and the least (26) years of age with an average age of (40.83) years and the workers were divided into three categories using the Term Act of the category of young people, the middle-aged group, and the category of the elderly as in table No.(5).

The results in table 4 showed that the degree of use of mobile phones in indicative work was (17%) as the highest category is the middle category with 43.7%, the degree of use (6%) followed by the high category (35.9%) and the degree of use (7%) Then came the low category (20.4%) and the degree of use (4%) that the extent of mobile phone use can be described as average tends to rise where the proportion of workers in the middle and high categories (79.6%) may be due to the spread of the phone among people and ease of access It should be carried out, used and its high effectiveness in the indicative work and in all circumstances and times, especially when

Table (5): Distribution of workers by age categories and their relationship to the degree of employment.

	Categories	Repetition	%	The arithmetic mean	degree of use	correlation coefficient	Calculated (t) value
1	(26-36) year	35	34	147.45	23%	**0.315	3.335
2	(37-47) year	45	43.7	160.55	24%		
3	(48-58) year	23	22.3	155.73	24%		
The Total		103	100		71%		

(Table value (t) (2.330) moral at the level (0.01

moral and thus reject nothingness and accept the alternative that provides for a moral correlation and this result is consistent with the study (Abdul Wahid, 2015) and (Al Al Judge Affat, 2022) and does not agree with (AlHamdani, 2020) and (,2018 Tata).

2- Academic qualification: The employees were divided into six categories according to their academic qualifications as shown in table (6).

Table 5 found that the middle-aged workers (37-47) were the highest at(43.7 %)followed by(34%) percent of young workers (26-26) followed by the age group, and for the purpose of detecting the correlation between the degree of use of communication techniques and information and age, pearson was used with a value of (0.315**) and to test the moral relationship between the variables. Use the law (t) has been shown to be

Table (6): Distribution of employees according to the academic qualification and its relationship to the degree of employment.

	Categories	Repetition	%	The arithmetic mean	degree of use	correlation coefficient	Calculated (t) value
1	preparatory	15	14.6	136.7	10%	**0.331	3.525
2	agricultural institute	28	27.2	144.1	11%		
3	Bachelor's	45	43.7	150.2	11%		

eISSN 1303-5150

4	Higher Diploma	7	6.8	163.2	12%		
5	Master's	6	5.8	175.3	13%		
6	PhD	2	1.9	188.6	14%		
	The Total	103	100		71%		

(Table value (t) (2.330) moral at the level (0.01

which may be due to the accumulated experiences, courses and scientific curricula they received during their education and agree (Salim and others 2021), Hamdani, 2020 and Tata. 2018) and does not agree with the study (Abdul Wahid,2015).

3- In-service training: training courses in the field of communication and information technologies and the categories were divided into three categories according to the number of training courses (no training course, 1-2 training courses, 3 training courses and more) as shown in table 7.

Table 6 shows that bachelor's degree holders accounted for the highest percentage of employees by 43.7 percent, , and finally a ph.D. (1.9%)For the purpose of detecting the correlation between the use of communication techniques, information and academic qualification, spearman was used with a value of (** 0.331) and for a moral test of the relationship the law (t) was used and appeared to be moral at the level (0.01) In doing so, we reject the hypothesis of non-existence, which states that there is no correlation between the academic qualification and the degree of use of communication techniques,

Table (7): distribution of employees according to the number of training courses they received in the field of communication and information techniques and their relationship to the degree of use.

	Categories	Repetition	%	The arithmetc mean	degree of use	correlation coefficient	Calculated (t) value
1	No training course	19	18.4	95.80	15%	**0.683	8.852
2	1-2 Training course	49	48.6	167	26%		
3	3 or more training courses	35	34	197.88	30%		
	The Total	103	100		71%		

Table value 2.330 moral at the level (0.01)

where it amounted (0.683**) to test the morality of the relationship between the two variables was used t law) and it was also found to be moral at (0.01) thus rejecting the hypothesis of nothingness and accepting the alternative that provides for a correlation between the variables. (Abdul Wahid 2015),(Al Judge Affat 2022), (Salim and others 2021). 4-The attitude of agricultural extension workers towards the use of communication and information techniques in indicative work: the workers were divided into three categories according to the law of the range as described in table 8.

Table 7 found that the highest number of employees received (1-2) training courses in modern communication and information technologies at (48.6%). This was followed by the category (3 courses and more) with(34 %), and the category of employees who did not receive any courses in modern communication and information technologies at(18.4 %)and for the purpose of extracting the correlation between the use of communication and information technologies with training courses in communication techniques. The recent information was used as pearson coefficient

eISSN 1303-5150

Table (8): distribution of workers according to the attitude towards the use of communication and information techniques in indicative work and its relationship to the degree of use.

	Categories	Repetition	%	The arithmetic mean	degree of use	correlation coefficient	Calculated (t) value
1	(10-16) negative	2	1.9	97	15%	**0.420	4.651
2	(17-23) neutral	40	38.9	167.9	26%		
3	(24-30) positive	61	59.2	193.8	30%		
	The Total	103	100		71%		

(Table value (t) (2.330) moral at the level (0.01)

is consistent with the study (Slim and others, 2021).

The Fourth Objective: To determine the regression relationship between the degree of use of communication and information techniques by agricultural extension workers and a range of variables studied: in order to determine the relationship between the degree of use of communication and information techniques by agricultural extension workers and all independent factors, use a multi-stage linear regression analysis that shows the amount of variation in the dependent factor (degree of use of communication and information techniques) by a number of independent variables in their existence and isolate factors that do not meet the conditions of the downward relationship: The results showed that the most powerful and influential variables were as follows in table 9.

Table 8 shows that the number of workers with a positive attitude towards the use of communication and information technologies is the highest by (59.2%) followed by the category of neutral workers (38.9%), the category of workers with a negative attitude came in at(1.9 %) and these results show that the majority of employees have a positive attitude towards the use of communication and information techniques at work and for the purpose of detecting the correlation between The use of communication techniques and information and the attitude towards their use in the indicative work was used simple link coefficient (Pearson) where it was worth (0.420**) and the relationship was hidden using the law (t) and found a moral correlation between the two variables (we reject nothingness and accept alternative imposition) and this result

Table 9: The regression relationship between the degree of use and a set of variables studied.

	Variables	R	R^2	Adj R^2	R Cha	B	T	F Cha	S
1	Constant In-service training $_{X1}$	0.683[a]	0.467	0.461	0.467	104.100 29.160	17.708 9.401	88.381	** **

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2	**Constant** **In-service training $_{X1}$** **Educational Qualification $_{X2}$**	**0.739[b]**	**0.546**	**0.537**	**0.079**	**86.417** **26.873** **8.090**	**12.513** **9.176** **4.172**	**60.069**	******

the courses Training with a variable academic qualification The study values of the opinions of the workers increase morally by (26,873) and the high level of study of the workers one unit with the variable participation in the training courses, the opinions of the workers increase morally by (8,090) as shown in the following equation: Y= 3(26,87) X1 + (8,090) X2+86,417, and the total variables studied in the analysis explained (54.6%) of the total variation in the degree of use where the value (R2) reached it (54.6%) and the remaining percentage is due to the less influential and other variables that are not studied. This result Agrees with the study (Gow,2020).

The Fifth objective: to identify the obstacles faced by workers in Nineveh Governorate when using communication and information techniques in indicative work: - For the purpose of identifying obstacles that limit the use of communication and information techniques in indicative work in Nineveh province, workers were asked to arrange obstacles according to their importance and impact and the results showed their order according to the degree of disability for use and as in table (10).

Table 9 shows that the regression relationship of the best transactions when introducing variables on their own, which have been differentiated based on the measures of trade-off based on the morale of model F) and the highest value of the selection factor (R2), as it has been found that the best independent variables in their effects of changes in The degree of use is the variable of training courses and it is noted that by increasing participation in training courses one unit, the values and opinions of the workers increase morally (29,160) and that the value (R2) is equal to (0,467) as this factor explains (46.7%) Changes in the degree of use of communication and information techniques by workers and by equation Y=α+ϕ1X1+ϕ2X2+≤e \ Y= (29,160) X1 + 104,100 , and the binary combination of independent variables appeared It should be noted that the best equation based on the value (R2) and morale(F) in explaining the changes in the degree of use was for both training courses and the qualification of the courses, with the value (R2) (0,546), which means that (54.6%) of the changes in the degree of use were the result of the two variables as it increased participation in

Table (10): Ranking of the obstacles faced by Extension workers when using communication and information techniques according to the degree of disability for use.

Obstacles	Arithmetic mean	Degree of disability	Rank
Weakness and frequent interruptions in networks and the Internet.	**2.77**	**11.5%**	**1**
Lack of knowledge of agricultural extension workers in creating scientific content and publishing it on social networking sites.	**2.69**	**11.2%**	**2**
Lack of qualification and training of agricultural extension workers in the use of communication and information technologies.	**2.67**	**11.1%**	**3**
The indicative message did not arrive clearly when using modern communication technologies to transmit it.	**2.32**	**9.6%**	**4**

*e*ISSN 1303-5150

Lack of possession of modern communication and information technologies in agricultural departments.	**2.09**	**8.7%**	**5**
Few farmers have an internet connection.	**1.76**	**7.3%**	**6**
The equipment and tools provided are old and of poor quality.	**1.76**	**7.3%**	**6**
The high cost of using information and communication technologies.	**1.49**	**6.2%**	**7**

highest and we conclude from this that they tend to use communication techniques and information

Recommendations

Implement training programs and pay attention to the quality of these courses and measure their impact on those working in the use of communication techniques in the work of extension.

Suggestions:

Create a precise specialization (electronic extension) in the study of master's and doctoral in agricultural extension because the importance of specialization because the extension means have become very wide and meet the requirements of developments at the present time.

Table 10 found that the most difficult thing for workers to use communication techniques in the extension work in Nineveh Governorateis (weakness and frequent interruption in networks and the Internet) to a degree of obstruction (11.5%), and its importance comes in that networks of all kinds, including internet networks, are the medium carrier of extension information and when weak or interrupted means that the flow of extension services through communication techniques has stopped and may be due to their emergence as a major obstacle to poor coverage of telephone networks as well as the Internet in areas of the internet. Agriculture in the Governorate and Iraq in general, and agrees with (Suleiman and et al, 2017).

Conclusions

The results showed that the proportion of agricultural extension workers with a positive attitude towards the use of techniques is the

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