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DIAGNOSING SOME OF THE REASONS RELATED TO THE LIMITED USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY IN AGRICULTURAL EXTENSION WORK/IRAQ

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ABSTRACT

The research aimed to identify the most important reasons related to the limited use of information and communications technology in agricultural extension work in Iraq. To achieve the research goal, the questionnaire was prepared as a tool for collecting data. It consisted of (56) items distributed over 5 axes: (Organizational and administrative reasons, financing reasons, human reasons, material and programming reasons, technical reasons). The research community included the governorates of Iraq, except for the governorates of the Kurdistan region, which number 15 governorates. A random sample was taken at a rate of 50% and by 8 Governorates (Kirkuk, Baghdad, Anbar, Basra, Dhi Qar, Babel, Karbala, Najaf). A proportional, stratified random sample was taken 33.1% from agricultural extension workers distributed across the aforementioned governorates, numbering 773 respondents. With 256 respondents, The results of the research concluded that the financial and organizational reasons It came in first place in terms of importance with a weighted average of 3.66 degrees, and with a percentage weight of 73.2%, while the technical reasons came in last place in terms of importance, with a weighted average of 3.20 degrees, and with a percentage weight of 64%,The researcher recommends the need for decision makers in charge of extension management to pay attention to the results of current research to address the reasons that have limited the application of information and communications technology in extension work.

Keywords: Financing reasons, information and communications technology, agricultural extension.

الأسباب ذات الصلة بمحدودية إستخدام تكنولوجيا المعلومات والإتصالات في عمل الارشاد الزراعي/ العراق

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الخلاصة

هدف البحث الى التعرف على أهم الأسباب ذات الصلة بمحدودية إستخدام تكنولوجيا المعلومات والإتصالات في عمل الارشاد الزراعي في العراق، ولتحقيق هدف البحث تم أعداد الاستبانة كأداة لجمع البيانات، تكونت من (56) فقرة موزعة على 5 محاور هي (أسباب تنظيمية وإدارية، أسباب تمويلية، أسباب بشرية، أسباب مادية وبرمجية، أسباب فنية)، شمل مجتمع البحث محافظات العراق عدا محافظات إقليم كردستان والبالغ عددها 15 محافظة، أُخذت عينة عشوائية من المحافظات بنسبة 50% وبواقع 8 محافظات وهي (كركوك، بغداد، الانبار، البصرة، ذي قار، بابل، كربلاء، النجف)،

[*] **The article is taken from the doctoral thesis of the first researcher.**

أُخذت عينة عشوائية طبقية تناسبية بنسبة 33.1% من العاملين في الارشاد الزراعي والموزعين على المحافظات السابقة الذكر والبالغ عددهم 773 مبحوثاً وبواقع 256 مبحوثاً، وخلصت نتائج البحث الى أن الأسباب المادية والتنظيمية جاءت بالمرتبة الأولى من حيث الأهمية بمتوسط مرجح قدره 3.66 درجة، وبوزن مئوي 73.2%، في حين جاءت الأسباب الفنية بالمرتبة الأخيرة من حيث الأهمية بمتوسط مرجح قدره 3.20 درجة، وبوزن مئوي 64%، ويوصي الباحث بضرورة إهتمام متخذي القرار من القائمين على الادارة الارشادية بنتائج البحث الحالي لمعالجة الاسباب التي تحد من تطبيق تكنولوجيا المعلومات والاتصالات في العمل الارشادي.

الكلمات المفتاحية: أسباب تمويلية، تكنولوجيا المعلومات والاتصالات، الإرشاد الزراعي.

INTRODUCTION

The tremendous developments that the world has witnessed in the field of information and communications technology have led to changes at various economic, social and cultural levels, which was clearly reflected in the success of many developed countries and developing **(Ali, 2015),** Which will achieve the requirements and goals of sustainable development in all its fields **(Neama, *et al.*, 2019),** including achieving agricultural development for rural communities, optimal investment of natural and human resources and capabilities, effective response to the needs of the target audience, and improving their living conditions **(Sbeih & Mithal, 2022),** And there are trends in most countries of the world to modernize agricultural extension systems in general, and Iraq in particular, in the field of applying information and communications technology and achieving a qualitative leap by developing the performance of workers in the extension organization, enhancing the capabilities of the rural community, and improving their standard of living **(Qamar, 2005).** This requires the existence of an effective and agricultural extension system that transfers information and scientific knowledge surrounding the conditions and variables of the targets, which are difficult to estimate on their own. **(Salman, 2020),** With the aim of teaching rural residents how to identify the problems they face and determine their priorities, **(Al-Saady & Al-Canay,2018),** Educating them, increasing their awareness, and helping them understand and apply modern agricultural innovations **(Challob, *et al.*, 2020),** The essence of extension work in preparing and implementing plans, programs and activities depends on the means of communicating with the beneficiaries and targets of extension work and its services. **(Al-Khazraji, 2015)**, Because communication has become a human activity and a broad science that achieves communication between the source of information, ideas, and scientific recommendations and the farmers in the field **(Al-Salhi, 2016)**,Modern means of communication that rely on computers, mobile phones and the Internet are among the most important technological revolutions in our current era that have been widely applied in the field of agricultural extension **(Abdul-Razzaq &Salman,2018**), It is a good platform for communication, allowing users all over the world to access it easily and conveniently **(Al-Janabi &Al-Nuaimi, 2014),** As a result of the great boom that occurred in information networks and means of communication and the entry into the era of globalization and the Internet, it led to the emergence of new threats and risks in the business arena **(Ghareeb &Al-Faihan, 2015**), This allows all institutions to take all possible preparations and means to maintain the security of their data, maintain it periodically, and ensure that it is stored and transferred to a secure, immutable third party **(Khaleel & Al-Shumam, 2020),** The increasing need for information and communications technology has led to the interest of many organizations, including the extension organization, in completing its work, obtaining services quickly, and implementing its activities accurately and efficiently**. (Hussein & Nidal, 2020)**, and its contribution to bringing about major and important changes, delivering information and improving its quality, to achieve the organization's goals of

survival, growth, and expansion of its business performance**,(AL-Thabet & AL-Jamili, 2017),** Therefore, accepting modern information and communication technology and applying it in the field of extension work is not an easy process as believed, but rather a process surrounded by many problems that negatively or positively affect the development of agricultural and extension work **(Lafta, 2009),** Based on the above, the use of modern information and communication technologies has become an urgent necessity to confront the challenges and problems facing traditional extension, which are represented by the small number of agricultural extension workers, the lack of qualification of current cadres, the lack of means of transportation, spatial remoteness, and weak coordination and communication between extension and research. agriculture and other problems that led to the weakness of the extension service **(Zaid *et al.*, 2019),** The report International Telecommunication Union, indicates that the world is witnessing an acceleration in the rate of use of Information and Communications Technology in 2009 from 54% to 63%, and it also showed that half of the world's population (5.3 people) will use the Internet in 2022, so it came The Arab countries ranked second among the countries in the world using the Internet at a rate of 70 %, while Iraq showed an exciting boom in the use of ICT, especially after the year 2003. The use of the Internet grew from 126 thousand people to 19.200 million people in 2017, while the use of the Mobile phone from 574 thousand subscribers to 45.100 million subscribers in 2017 **(Abdullah & Liqaa, 2021).** For another issue that must be focused on in this research, which is that there are studies that have confirmed the existence of obstacles that have limited the use of information and communication technology in agricultural extension work, such as a study **(Melouk & Ziad, 2016),** which explained the existence of obstacles related to The work environment ranked first from the respondents' point of view, with an average percentage of 19.9 degrees, while computer-related obstacles ranked last, with an arithmetic average of 16.8 degrees, the study **(Ali, 2017)** also showed that financial obstacles have the greatest impact on the application of electronic technology in extension work, with an arithmetic average of 4.12 degrees, followed by administrative obstacles with an arithmetic average of 3.66 degrees, while **(Al-Awadi, 2019)** explained in his study that administrative obstacles were at the forefront of the most influential obstacles with an arithmetic average of 3.2 degrees, followed by financial obstacles with an arithmetic average of 2.5 degrees. Despite the importance of using information and communications technology and its distinctive role in developing extension work, and the interest of many state institutions represented by the Ministry of Agriculture, the General Authority for Agricultural Extension and Training, and educational institutions, on the need to keep up with current developments and replace information technology and means of communication in agricultural extension work, there is Challenges faced in applying information and communications technology in its extension work, represented by the weak infrastructure of information and communication technology, weakness in the speed and efficiency of communication networks, high costs, lack of training, and lack of culture and awareness among those targeted for its use **(Abdel Wahed, 2015).**

Due to the lack of previous extension studies that addressed the reasons that limited the application of ICT in agricultural extension work in Iraq, and to overcome these reasons with appropriate solutions, this research came to answer the following question: What are the reasons related to the limited use of ICT in agricultural extension work /Iraq?.

Research Objective

1. Identify the most important reasons related to the limited use of information and communications technology in agricultural extension work/Iraq, represented by the following axes: (Organizational and administrative reasons, Financing reasons, Human causes, material and programming reasons, and technical reasons).

Research Hypothesis

1. There are several reasons that limit the use of information and communication technology in agricultural extension work/Iraq.

MATERIALS AND METHODS

Research Methodology

The researcher used the descriptive approach as a procedure to achieve the research objectives, because it is consistent with the nature of the research that aims to identify the reasons related to the limited use of information and communication technology in agricultural extension work / Iraq **(Al-Mahmoudi, 2019).**

Research Population and Sample

All governorates of Iraq were selected, except for the governorates of the Kurdistan region, which are 15 governorates. A random sample of 50% was drawn from the governorates of Iraq 8 governorates, namely (Anbar, Basra, Kirkuk, Babylon, Baghdad, Dhi Qar, Najaf, Karbala), a proportional random sample was taken using Steven's equation (**Steven, 2012**), with a percentage of 33.1% of agricultural extension workers within the for Agricultural Extension and Training the extension departments and affiliated agricultural divisions. To the agricultural directorates and their affiliated extension centers and farms, which numbered (773) respondents, with a total of (256) respondents. As shown in Table 1.

Table (1): Distribution of agricultural extension workers and users of information and communications technology according to the governorates of the research sample.

No.	rnorateGove	33.1% of the workers in the extension department in the agricultural directorates		33.1% of the workers in the extension unit in the agricultural divisions		33.1% of theworkers in the Agricultural Extension Department		33.1% of the workers in counseling centers		33.1% of the workers on extension farms		The total number of agricultural extension workers in the research community	The total number of the research sample for agricultural extension workers
1	Baghdad	16	5	18	6	160	53	13	4	12	4	219	72
2	Basra	18	6	41	14			13	4	12	4	84	28
3	Dhi Qar	8	3	19	6			15	5	25	8	67	22
4	Najaf	8	3	20	7			11	4	26	9	65	23
5	Babylon	28	9	27	9			27	9	52	17	134	44
6	Karbala	5	2	10	3			15	5	17	6	47	16
7	Anbar	15	5	45	15			16	5	10	3	86	28
8	Kirkuk	13	4	25	8			14	5	19	6	71	23
the total		111	37	205	68	160	53	124	41	173	57	773	256

Preparing The Search Tool

In light of previous literature, research and studies in the field of information and communications technology and the opinions of experts and specialists in this field, a research scale was prepared in its initial form with three levels (agree, agree with modification, disagree), and weights were given to it 2, 1, 0 respectively, as It consists of 57 items distributed over 5 axes, which are: organizational and administrative reasons13 items, financial reasons 10 items, human reasons 16 items, material and programming reasons 9 items, and technical reasons 9 items.

Validity Of The Search Tool

The scale was presented in its initial form to the 12 arbitrators and experts specialized in the field of agricultural extension, to measure the apparent validity to ensure that the scale actually measures what it was designed to measure **(Kawafha, 2010**), and to measure the validity of content and content, it was The scale was presented in its initial form to 9 experts in the fields of information technology, communications, management, economics, and media to ensure the clarity of the items and their relationship to the components of the scale and their connection to the measured aspect of achieving the set goals **(Bassiouni, 2010).** I collected the experts' opinions and suggestions about whether to keep or delete. Or modify the topics and paragraphs of the questionnaire and write down their answers for the period from (4/4/2023 to 5/5/2023).

Cutoff Threshold

The cut-off threshold was set at 75% or more, to maintain the validity of the axes and items of the scale in its final form, as the degree of agreement of experts and arbitrators for the components of the scale at 75% or more gives an indicator of the validity of the tool, which creates a feeling and satisfaction about its validity (**Darwaza, 2005),** as the opinions of experts and arbitrators were taken into account, minor amendments were made, and the degree of their agreement with the validity of what was stated in the standard was calculated, and the cut-off threshold rate reached 88%. The final questionnaire was prepared, which includes 56 items distributed over 5 axes: organizational and administrative reasons 13 items, financial reasons 10 items, human reasons 16 items, material and programmatic reasons 8 items, and technical reasons 9 items, As shown in Table 2.

Table (2): Distribution of axes and paragraphs of reasons related to the limited use of information and communications technology in agricultural extension work/ Iraq.

No.	Interviewer	Number of paragraphs
1	Organizational and administrative reasons	13
2	Financing reasons	10
3	Human causes	16
4	material and programming reasons	8
5	Technical reasons	9
The total number of paragraphs		56

Consistency Of the Research Tool

Reliability means that the scale obtains stable scores after a period of time and under the same conditions (**Abboud, 2017**). Diwaniyah Governorate was chosen to measure stability, and an pre-test of the scale was conducted in May 2023 on a survey sample of adult agricultural extension workers. They numbered 67 respondents, distributed among the Directorate of Agriculture and its divisions, and its extension centers and farms. A random sample of 40.3% was taken, amounting to 27 respondents. The test data was analyzed using the SPSS program to measure the reliability of the scale items using the Cronbach alpha equation. The overall reliability value reached 0.89 degrees, and the value is considered scientifically acceptable. The scale indicates stability and acceptability if it obtains a value for the reliability coefficient. 0.80 and more **(Allam, 2009)**, and as shown in Table 3.

Table (3): Values of the Cronbach reliability coefficient for the research axes.

No.	Interviewer	Stability coefficient
1	Organizational and administrative reasons	0.86
2	Financing reasons	0.90
3	Human causes	0.93
4	material and programming reasons	0.86
5	Technical reasons	0.94

Data Collection

The questionnaire form was used as a tool for collecting data, which includes a set of questions that the respondents are required to answer, and it is considered one of the most common scientific research tools to achieve the research objectives **(Latad *et al.*, 2019)**. Data was collected for the period between (10/7/2023 to 10/9/2023).

Tabulation And Analysis of Data

The data was classified and analyzed to measure the reasons related to the limited use of information and communication technology in agricultural extension work/Iraq through a scale consisting of 56 items distributed on 5 axes: 13 items for organizational and administrative reasons, 10 items for financial reasons, and 16 items for human reasons. 8 items for material and programming reasons, and 9 items for technical reasons. Five alternatives were allocated to each paragraph (completely agree, agree, neutral, disagree, completely disagree), and weights were assigned to them 5,4,3,2,1 respectively, The total score of the scale ranged between 56-280 degrees, and statistical methods, frequencies, percentages, weighted average, and percentage weight were used.

RESULTS AND DISCUSSION

Objective 1: Identify The Most Important Reasons Related To The Limited Use Of Information And Communications Technology In Agricultural Extension Work/Iraq.

It appeared from the analysis of the research results that the weighted averages of the reasons related to the limited use of information and communications technology ranged between 3.66-3.20 degrees, with a percentage weight that ranged between (64.0-73.2) %, as shown in Table 4.

Table (4): Arranging the axes of reasons related to the limited use of information and communications technology according to weighted means and percentage weights.

Order of importance	Sort by form	Interviewer	weighted mean	Percentage weight (%)
1	1	Organizational and administrative reasons	3.66	73.2
2	2	Financing reasons	3.51	70.2
3	4	material and programming reasons	3.49	69.8
4	3	Human causes	3.33	66.6
5	5	Technical reasons	3.20	64.0

It is clear from Table 4 that the estimates of the weighted means and percentage weights of the axes of reasons related to the limited use of information and communications technology converged. The axis of organizational and administrative reasons ranked first in importance with a weighted average of 3.66 degrees, and a percentage weight of 73.2%. The reason for this is attributed to the lack of... The workers in the extension organization understand the applicable work practices, methods and instructions, adhere to routine administrative procedures, and forget the content and basic goal of presenting artistic works in a way that meets the needs and requirements of the beneficiaries of the extension system and satisfies their desires. While the technical reasons axis ranked last in terms of importance with a weighted average of 3.20, and a percentage weight of 64.0%. The reason for this is that the technical requirements that must be provided are considered an important document and relevant to the application of information and communications technology in the extension organization, This is consistent with the study **(Al-Awadi, 2019)**, According to the above... the reasons related to the limited use of information and communications technology in agricultural extension work will be discussed.

The First Axis: Organizational And Administrative Reasons

It appeared from the analysis of the research results that the respondents' answers to the paragraphs related to organizational and administrative reasons obtained an overall weighted average of 3.66 degrees, with an overall percentage weight of 73.2%, as shown in Table 5.

Table (5): Distribution of respondents according to their answers to the items on organizational and administrative reasons.

Order of importance	Sort by form	Paragraphs	weighted mean	Percentage weight %
1	11	Weak coordination of the agricultural extension system with research and educational bodies and farmers to exchange extension information and experiences through modern means of communication	4.05	81
2	3	Weak interest of the Agricultural Extension Service in ensuring information and communications technology requirements	3.95	79
3	8	The absence of an independent unit in the agricultural extension organizational structure concerned with using modern communication technologies	3.92	78.4
4	1	Weak policies, legislation and laws supporting the application of information and communications technology in agricultural extension work	3.89	77.8
5	12	Weak coordination with the private sector and relevant authorities	3.82	76.4

		to provide agricultural extension services through modern means of communication		
6	9	Lack of material or moral incentives provided to encourage those conducting training to use modern communication techniques in extension work	3.75	75
7	2	Weak laws to punish information theft and computer hacking	3.69	73.8
8	5	Failure to provide centers for computer and equipment maintenance within the extension organization	3.61	72.2
9	13	Weak follow-up and evaluation of the accuracy of extension information published on websites	3.57	71.4
10	7	The lack of training program plans directed at agricultural extension workers in training programs related to information and communications technology	3.47	69.4
11	6	The weak role of agricultural extension in developing the capabilities and skills of agricultural extension workers to employ the use of information and communication technology in agricultural extension work	3.35	67
12	10	The abundance of routine procedures and instructions within the administrative organization of the extension agency reduces the application of information and communication technology	3.29	65.8
13	4	Agricultural extension officials monopolize the use of some modern means of communication, such as the Internet	3.25	65
General average			3.66	73.2

Table 5 indicates the convergence of the weighted means for the paragraphs of organizational and administrative reasons, which ranged between 3.25-4.05 degrees, and with a percentage weight that ranged between (65.0-81.0)%, as the paragraph came in “Weak coordination of the agricultural extension agency with research and educational bodies and farmers to exchange information.” Extension and expertise through modern means of communication" ranked first in terms of importance, with a weighted mean of 4.05 degrees, and a percentage weight of 81%. The reason for this is attributed to the weakness of policies and legislation that regulate the relationship between agricultural extension, research bodies, and farmers, and the lack of clarity of common goals and links between them. While the item “The monopoly of agricultural extension officials on the use of some modern means of communication such as the Internet” ranked last in terms of importance, with a weighted average of 3.25 degrees, and a percentage weight of 65%. The reason for this is attributed to the incorrect use of websites by some agricultural extension workers. Electronic or social networking pages for the purpose of entertainment and amusement or for personal purposes far from extension work.

The Second Axis: Financing Reasons

It appeared from the analysis of the research results that the respondents’ answers to the paragraphs related to financing reasons obtained an overall weighted average of 3.51 degrees, with an overall percentage weight of 70.2%, as shown in Table 6.

Table (6): Distribution of respondents according to their answers to the items on financing reasons.

Order of importance	Sort by form	Paragraphs	weighted mean	Percentage weight %
1	1	Lack of financial allocation to purchase computers and equipment for use in agricultural extension work	3.93	78.6
2	4	Lack of financial allocation for training and qualifying agricultural extension workers and developing their capabilities and skills in the field of information and communications technology	3.85	77
3	5	Lack of financial allocations to purchase software to protect computers from viruses and limit computer hacking and data theft	3.77	75.4
4	2	Weak capabilities allocated to designing and updating computer software and applications	3.69	73.8
5	6	High costs of purchasing computers equipment and updating software	3.57	71.4
6	7	High maintenance costs for computers and equipment	3.42	68.4
7	8	High prices for installing and updating calculator software and applications	3.33	66.6
8	3	Lack of financial allocations for most of the guidance units for subscribing to the Internet	3.21	64.2
9	9	The high cost of the Internet subscription package and its use on computers and mobile phones	3.18	63.6
10	10	Misuse of funding allocated for the use of information and communications technology in agricultural extension work	3.15	63
General average			3.51	70.2

Table 6 indicates the convergence of the weighted means for the paragraphs of financing reasons, which ranged between 3.15- 3.93 degrees, and with a percentage weight that ranged between (63.0-78.6)%, as the paragraph came “Lack of financial allocation to purchase computers and equipment for use in agricultural extension work.” It ranked first in terms of importance, with a weighted mean of 3.93, and a percentage weight of 78.6%. The reason for this is attributed to the extension organization’s need to implement extension activities and programs to prepare a sufficient financial budget to prepare and provide all necessary supplies and purchase devices and equipment such as computers and the necessary Internet networks. To cover it. While the item “Misuse of funding allocated for the use of information and communications technology in agricultural extension work” ranked last in terms of importance, with a weighted mean of 3.15 degrees, and a percentage weight of 63%. The reason for this is that the success of the extension organization’s financial plans depends mainly on Rationality in orientation and optimal exploitation of available resources that give the greatest returns.

The Third Axis: Material And Programming Reasons

It appeared from the analysis of the research results that the respondents’ answers to the items related to the material and programmatic reasons obtained an overall weighted average of 3.49 degrees, with an overall percentage weight of 69.8%, as shown in Table 7.

Table (7): Distribution of respondents according to their answers to the items on material and programmatic reasons.

Order of importance	Sort by form	Paragraphs	weighted mean	Percentage weight %
1	1	Failure to provide computers and equipment in sufficient numbers compared to the number of agricultural extension workers	3.82	76.4
2	5	Not providing laptop computers supported by wireless Internet during the implementation of extension activities	3.70	74
3	8	Failure to provide an integrated infrastructure to support the use of information and communications technology in extension work	3.66	73.2
4	2	Lack of programs to protect extension information from loss and viruses	3.51	70.2
5	7	The age of computers, their frequent malfunctions, and their poor efficiency in guiding work	3.44	68.8
6	3	Lack of continuous updates to computer software and applications in the extension organization	3.36	67.2
7	6	Poor efficiency of computers used to process indicative data	3.25	65
8	4	Lack of educational software that serves the counseling process	3.19	63.8
General average			3.49	69.8

Table 7 indicates the convergence of the weighted means for the paragraphs of material and programmatic reasons, which ranged between 3.19-3.82 degrees, with a percentage weight that ranged between (63.8-76.4)%, as the paragraph came in "Not providing computers and equipment in sufficient numbers compared to the numbers of agricultural extension workers." It ranked first in terms of importance, with a weighted mean of 3.82 degrees, with a percentage weight of 76.4%. The reason for this is attributed to the financial allocations allocated to agricultural departments and extension centers being insufficient to purchase and maintain information and communications technology devices and equipment to meet the needs of the increasing numbers of agricultural extension workers in the field of technology application. Information and communication in agricultural extension work, while the paragraph "lack of educational software that serves the extension process" ranked last in terms of importance, with a weighted mean of 3.19 degrees, and a percentage weight of 63.8%. The reason for this is that applied software is considered the most important Uses of computers, which seek to provide guidance and educational content supported by still and moving images, sound, texts, and artistic effects, which creates an interactive environment between agricultural extension workers and farmers.

The Fourth Axis: Human Causes

It appeared from the analysis of the research results that the respondents' answers to the items related to human causes obtained an overall weighted average of 3.33 degrees, with an overall percentage weight of 66.6%, as shown in Table 8.

Table (8): Distribution of respondents according to their answers to the human causes items.

Order of importance	Sort by form	Paragraphs	weighted mean	Percentage weight %
1	4	Weak training and qualification of agricultural extension workers on using computers and the Internet in extension work	4.00	80
2	6	Poor level of agricultural extension workers in the English language for use in calculator software and browsing websites	3.92	78.5
3	1	Lack of knowledge of agricultural extension workers about calculator operating software and its applications	3.84	76.8
4	5	Appointing cadres of agricultural extension workers who are incompetent in using information and communication technology to work in agricultural extension.	3.76	75.2
5	3	Weak experience and skill of agricultural extension workers in using computers and the Internet in agricultural extension work	3.65	73
6	16	Agricultural extension workers focus on using personal mobile phones for communication and communication to exchange ideas and extension information with relevant authorities.	3.54	70.8
7	7	Some agricultural extension workers fear losing extension information due to it being stolen, hacked, or questioned during the malfunction of modern communication technologies.	3.48	69.6
8	14	Poor knowledge of agricultural extension workers by searching websites for agricultural extension topics	3.32	66.4
9	8	Lack of specialized technical personnel to maintain computers and equipment	3.21	64.2
10	2	The unwillingness of some agricultural extension workers to use modern communication technologies due to the complexity of their operations and the feeling of difficulty and problems in their application.	3.17	63.4
11	9	The limited number of agricultural extension workers qualified to use information and communications technology in extension work	3.11	62.2
12	11	Weak awareness among agricultural extension workers of the importance of using information and communication technology in the extension organization	3.05	61
13	10	The resistance of some agricultural extension workers to innovation and change and their adherence to traditional methods of communication	2.90	58
14	12	Low confidence of agricultural extension workers and farmers in the importance of using information technology in extension work	2,88	57.6
15	13	Some agricultural extension workers are busy with non-agricultural topics while browsing the Internet	2.82	56.4
16	15	Lack of time needed for agricultural extension workers to use information and communications technology in implementing extension activities	2.75	55
General average			3.33	66.6

Table 8 indicates the convergence of the weighted means for the human causes items, which ranged between 2.75-4.00 degrees, and with a percentage weight that ranged between (55-80)%, as the item came in "Weak training and qualification of agricultural extension workers in using computers and the Internet in extension work." "It ranked first in terms of importance, with a weighted mean of 4.00, and a percentage weight of 80%. The reason for this is attributed to the extension organization's need to train its cadres of agricultural extension workers by specialists to develop their capabilities and skills in the field of using information systems devices and modern communication networks in Extension work, while the item "Not providing the necessary time for agricultural extension workers to use information and communications technology in implementing extension activities" ranked last in terms of importance, with a weighted mean of 3.33 degrees, and a percentage weight of 66.6%, and the reason for this is attributed to the momentum of the work assigned to it. Agricultural extension workers are prevented from using information and communications technology in implementing extension activities and are limited to using traditional methods in implementing them.

The Fifth Axis: Technical Reasons

It appeared from the analysis of the research results that the respondents' answers to the paragraphs related to technical reasons obtained an overall weighted average of 3.20 degrees, with an overall percentage weight of 64%, as shown in Table 9.

Table (9): Distribution of respondents according to their answers to the technical reasons items.

Order of importance	Sort by form	Paragraphs	weighted mean	Percentage weight %
1	3	Lack of Internet service in the agricultural extension workers' workplace in some extension units	3.62	72.4
2	6	Lack of creation of local agricultural extension websites on the Internet	3.53	70.6
3	7	Failure to update the extension information published on agricultural websites to keep pace with current developments	3.48	69.6
4	9	Weak coherence and coordination between extension, research and educational institutions in transferring and exchanging agricultural information via websites	3.34	66.8
5	5	The scarcity of Arabic websites on the Internet that serve the guidance process and the difficulty of accessing them	3.27	65
6	1	Poor regular maintenance of computers and equipment in the extension organization	3.11	62.2
7	2	Continuous interruption of the Internet network during the implementation of extension activities	2.97	59.4
8	4	Continuous power outages while using information and communications technology devices to implement extension activities	2.81	56.2
9	8	Difficulty in maintaining confidentiality of information and easy hacking and theft	2.73	54.6
General average			3.20	64

(Table, 9) indicates the convergence of the weighted means for the paragraphs of technical reasons, which ranged between 2.73-3.62 degrees, and with a percentage weight that ranged between (54.6-72.4)%, as the paragraph "Lack of Internet service in the workplace of agricultural extension workers in some extension units." It ranked first in terms of importance, with a weighted mean of 3.62 degrees, and a percentage weight of 72.4%. The reason for this is due to the lack of a subscription within the Internet package for communication networks (Zain, Asia, and others) that achieves Internet connection to cover extension activities within the scope of the units' work extension, and it is limited only to the limited Internet network of the extension units to carry out administrative matters, while the item "The difficulty of maintaining the confidentiality of information and easy hacking and theft" ranked last in terms of importance, with a weighted mean of 2.73 degrees, and a percentage weight of 54.6%, and the reason for this is attributed to There are no programs to protect information devices from virus attacks that perform periodic checks to protect indicative information from theft, hacking, and misinformation with false information, in addition to the weakness of precautionary measures to copy extension information with backup files to protect it from loss and damage.

RECOMMENDATIONS

1. The need for officials in the extension organization to pay attention to the reasons that limit the application of information and communications technology in extension work and to take all necessary measures to address those reasons.
2. The need to intensify efforts and increase financial allocations to reduce material, programmatic and financial obstacles.
3. The need to intensify efforts, prepare educational extension programs, increase cultural awareness of agricultural extension workers, and follow the method of material and moral support and stimulation to reduce human and technical obstacles.
4. The need to intensify efforts, develop organizational policies and procedures for the workflow of the extension organization, and coordinate with relevant authorities to reduce organizational and administrative causes.

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