

Obstacles to Using Cloud Accounting Evidence from Kurdistan Region - Iraq

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ABSTRACT

The prevailing trend in the field of accounting recently is the use of cloud accounting or online accounting, because of its advantages, such as reducing cost and obtaining financial information in a timely manner and other advantages. The companies operating in Kurdistan region have begun to follow the example of international companies that rely on the cloud accounting system. Changing the accounting system to a cloud accounting system faces some difficulties and obstacles, just like any other changes within the company. The main objective of this research is to identify the concept of cloud accounting and whether there are obstacles facing this change in the Kurdistan region and to put forward some opinions on how to overcome these obstacles. The research found that there are many obstacles that hinder the process of implementing and using cloud accounting system in Kurdistan Region.

1. Introduction

Accounting science, like other sciences, has adapted to developments in the field of business and economics and increasingly relying on information technology. Reliance on information technology has become one of the basic conditions for developing the accounting system and using sophisticated accounting software became one of the indicators of the success of any business.

Therefore, companies started to allocate part of capital investment to accounting information systems in order to be able to compete with other companies.

According to Gartner forecasts the spending on cloud services to reach \$396 billion in 2021 and grow 21.7% to reach \$482 billion in 2022. (Stamford, 2021) [1].

One of the fundamental qualitative characteristics of accounting information is timeliness which is critical for any business management to have the accounting information on time in order to make the right decisions. The less timely information (older information), the less useful information available for decision-making. Relying on cloud accounting system leads to achieve this feature in accounting information in addition to many other features that improve the quality of accounting information.

Research Framework

Cloud Accounting is a new concept in Kurdistan Region and Iraq, therefore, the majority of accountants in Kurdistan Region are not familiar with this service. On the other hand, the companies want to benefit from the advantages of cloud accounting but the accountants who work in these companies are not aware of the issues they will face and the obstacles that hinder the use of the service. The problem of the research could be expressed as the following question:

- What are the obstacles that face the accountants when using cloud accounting system in Kurdistan region?

The hypothesis of the research can be formulated with respect to the research problem and research objectives as follows: “There are no obstacles to use and implement cloud accounting in Kurdistan region”.

The research aims to identify the obstacles that impede accountants from applying cloud accounting systems and attempts to find the appropriate and realistic solutions to remove or to reduce these obstacles. Also, it is an effort to improve accounting practice through providing knowledge about Cloud Accounting Systems and encourage accountants to use new technology at work.

The importance of the research comes from that it attempts to develop the accounting profession by removing obstacles that hinder accountants from using cloud accounting systems and benefit from the sophisticated accounting systems and

make the most of the advantages provided by these systems in order to provide live financial information to decision makers at the appropriate cost.

The research depends on various sources to collect the data. For the theoretical part, the research depends on text books, researches, periodicals, and articles. On the other hand, the research has been conducted through primary data collection. Primary data have been collected from using convenience sampling method through questionnaire survey. A 5-point Likert scale, from 1 “Strongly Agree” to 5 “Strongly Disagree”, is used with a set of statements in the questionnaire. The target population was chartered accountants, university teachers, accountants in order to cover all the viewpoints

1.1 Overview:

Before going into the details of cloud accounting and discussing its problems, it is necessary to know what is cloud computing and to create a basis for knowledge, even in a brief form.

What is Cloud Computing?

There are many definitions for Cloud computing, but the most comprehensive and precise definition is the one issued by the one provided by U.S. National Institute of Standards and Technology (NIST) [2]:

“Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service-provider interaction”.

In other words, instead of storing files on company’s hard drive or local storage device, cloud-based storage makes it possible to save them to a remote database. So, when the electronic device is connected to the internet, it has access to company’s data and the software programs to run it. Figure (1) shows the elements of the cloud computing.

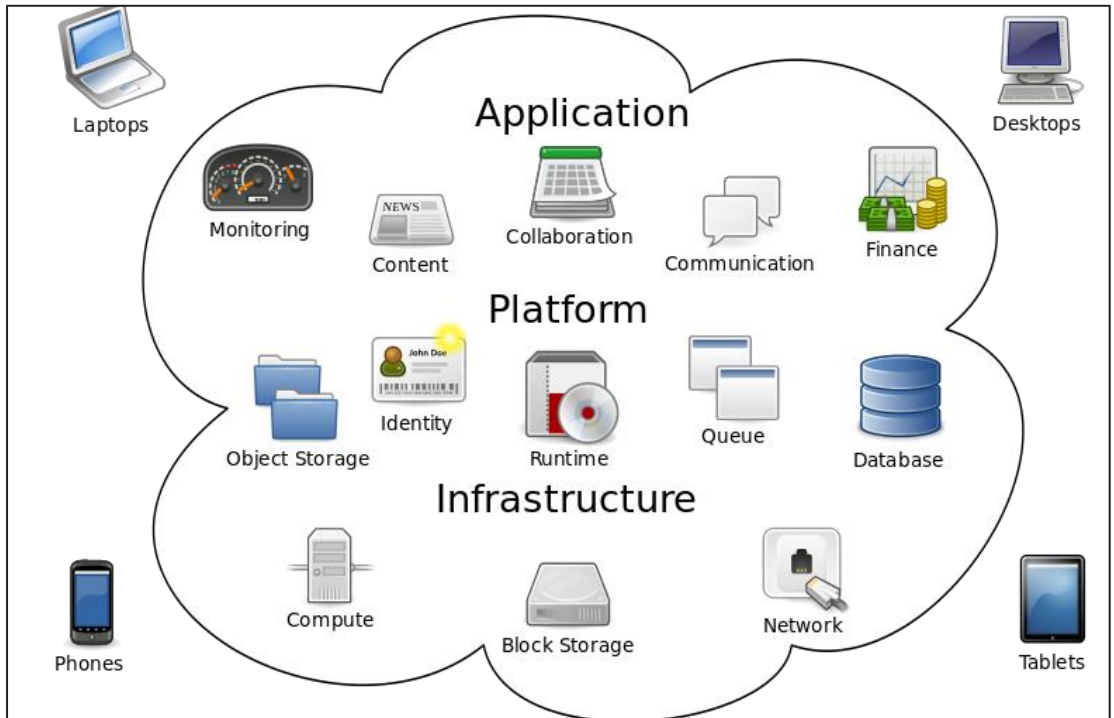


Figure (1) Elements of Cloud Computing

Source: (Johnston, 2009) Wikipedia.org [3]

Cloud Services:

We can classify the cloud computing services into three categories as follows (Pancholi and Patel 2017) [4]:

- ▶ Infrastructure as a Service (**IaaS**)
- ▶ Software as a Service (**SaaS**)
- ▶ Platform as a Service (**PaaS**)

Infrastructure as a Service (IaaS) is providing virtualized computing resources over the Internet. The service provider is responsible for housing, operating and maintaining the equipment it provides for a client. Clients usually pay on a per-use or utility computing basis.

SaaS, or Software-as-a-Service, A service provider hosts the application and the user accesses it over the Internet using a web browser from any device

Platform as a Service (PaaS) The service provider company provides systems software and hardware to users to develop applications using Web-based tools. This type is mostly used for ecommerce business.

Types of Cloud Computing

This classification is based on the types of the users and to whom the cloud services offered. The following are the types of cloud computing (Huth and Cebula, 2011) [5]

- 1- **Public Cloud** – This type can be accessed by anyone with an internet connection and from any device.
- 2- **Private Cloud** - A private cloud is accessed by a specific group or organization or company and the access is limited that group.
- 3- **Community Cloud** - A community cloud is shared among two or more organizations that have similar cloud requirements.
- 4- **Hybrid Cloud** - A hybrid cloud is a combination of at cloud types, for example, public and community.

Cloud Accounting Software: Cloud accounting is using cloud computing hosted by cloud service company to process and store financial data remotely on hosts servers instead of purchasing and using an accounting software to process and store data on company's server, so, it is a combination of cloud computing and accounting.

There are many cloud accounting software hosted as a service (SaaS). The following table shows some of the SaaS service providers with comparison of the prices:

(Table 1) Rating of the most popular and affordable cloud accounting software in October 2018

Rank	Most popular software				Most affordable software			
	Accounting software (vendor) name	Number of features supported (max. 14)	Price (per user / per month), \$	Main clients	Accounting software (vendor) name	Number of features supported (max. 14)	Price (per user / per month), \$	Main clients
1	QuickBooks (Intuit Inc., USA)	11	5,00–30,00	SE ¹ , SB ²	Accounting by Wave (Wave Financial Inc., Canada)	14	free	SE, SB
2	FreshBooks (FreshBooks Inc., Canada)	3	15,00–50,00	SE, SB	Reckon One (Reckon Ltd., Australia)	11	5,00-30,00	SB, MB
3	Accounting by Wave (Wave Financial Inc., Canada)	14	free	SE, SB	Odoo Accounting (Odoo S.A., Belgium)	14	14,00	SE, SB, MB, LB
4	Microsoft Dynamics 365 (Microsoft Corp., USA)	13	40,00–210,00	SE, SB, MB ³ , LB ⁴	Easy Accountax (Easy Accountax, UK)	12	2,40-15,00	SE, SB
5	Xero (Xero Ltd., New Zealand)	14	27,50–75,00	SB, MB	SimpleBooks (GoSimple Software Ltd., UK)	5	6,00	SE, SB
6	Oracle Financials Cloud (Oracle Corp., USA)	5	600,00	SE, SB, MB	Xero (Xero Ltd., New Zealand)	14	27,50–75,00	SB, MB
7	Sage Business Cloud Accounting (Sage Group plc, UK)	8	10,00–25,00	SE, SB	Zoho Books (Zoho Corp. Pvt. Ltd., India)	8	2,90–4,50	SE, SB, MB
8	Odoo Accounting (Odoo S.A., Belgium)	14	14,00	SE, SB, MB, LB	Billy (Billy US Inc., USA)	5	15,00–39,00	SE, SB
9	Zoho Books (Zoho Corp. Pvt. Ltd., India)	8	2,90–4,50	SE, SB, MB	Smarty (Smarty software Ltd., UK)	8	2,00-45,00	SB
10	Kashoo (Kashoo Inc., Canada)	9	16,65–29,95	SE, SB	Officewise (Officewise, USA)	13	0,00–8,95	SE, SB, MB, LB

Source: (Popivniak, 2019) [6]

Advantages of Cloud Accounting: There are many advantages to use cloud accounting services, the following are a list of the advantages:

- 1. Accessibility:** Company employees can access the accounting information system any time and from anywhere from a device with internet connection.
- 2. Security of Financial Information** (Sobhan, 2019) [7]: Since the accounting information is stored on the cloud instead of the users' device, then it will be safer in case of loss or damage of the device.
- 3. Cost:** Since the servers, infrastructure and software are provided by the service provider then less capital investment needed, furthermore, there is no need for IT employees. Also, a free technical support provided from service provider.

4. **Easy to Use** (Rao, 2019) [8]: The accounting software provided by the service provider is very easy to learn and use by the end user.
5. **Bandwidth:** The accounting information stored on cloud can be shared with any other user and there is no need to send the information by email or any other method.
6. **Real-Time Information Updating** (Khanom, 2017) [9]: With Cloud Accounting, information is available to the user as soon as the transactions are entered on the systems. This ensures timely management of finances, better and quicker decisions.

Results and Discussion

1. The Research Tool: The questionnaire represented the main tool for collecting the data for the field side for this research, which included two sections, the first one related to the personal knowledge about the cloud accounting system with one question, and the second section is related to the scale of the research variables with (22) Phrases or questions to measure the obstacles for using the cloud accounting system in Kurdistan Region, as shown in the table (2). Also, 77 copies of the questionnaire were distributed to a sample of accountants and academics to get acquainted with their opinions regarding the research variables. Only 63 questionnaires were retrieved, which means that the response rate was (81.8%). Therefore, the final sample size became 65 individuals.

Table (2) The Questionnaire

Q. Section	Items No.	Reference
First	1	Researcher
Second V1 & V2	22	Researcher
Total for Q.	23	-
Q. Distributed	Q. Retrieved	Response rate
77	63	81.8%

2. The Questionnaire Tests: The questionnaire was prepared according to the review carried out by the researcher for the availability of theoretical references and field research related to the main variables of the current study and the use of expressions

of a number of these references and research questionnaires. With a number of statistical methods as follows:

2.1. Reliability Test: The Cronbach Alpha method was used to verify the stability of the resolution according to the statistical criteria and obtain the reliability coefficient, which is summarized by finding the consistency between the Phrases. And if the coefficient is (0.67) or more according to this method, then it is considered sufficient for the research on which the questionnaire is used as a tool. The results of this test showed that the stability factors of the questionnaire reached (84%), which means that the questionnaire passed the reliability test successfully.

2.2. Validity Test: The validity of the content of the questionnaire was measured by the validity coefficient on the basis of the existence of a strong correlation between the validity of the questionnaire and its reliability, and the validity of the content is measured by adopting the equation (Validity = Square root of the reliability coefficient). And by taking the square root of the value of the reliability coefficient, the degree of validity is equal to (0.917), which is a high value indicating the validity of the content of the questionnaire.

2.3. Consistency Test: The multiple correlation coefficient was adopted by the Pearson method to identify the internal consistency between the Phrases of the f the research variables, and it was found that the questionnaire passed this test according to the results attached in Appendix (1), which indicates that most of the correlation coefficients it had significant relationships with significant levels of (0.05) and (0.01), and this indicates the consistency of the terms of the research variables.

3. Data Test: The statistical analysis requires the necessity of testing the research data to identify the statistical method that will be adopted later in testing hypotheses and whether it is the method of parametric or non-parametric tests, as it is known that the parametric tests are more accurate than non-parametric and therefore the current research data has been subjected, the normality test which is the condition for the availability of the normal distribution in the data of the research, and the

normal distribution (Z) was conducted by the method of (Kolmogorov – Smironov) to verify this, as the results of the analysis in the table (3) showed that the calculated (Z) value of the all variables (0.107) were less than the values of tabulated (Z) which was (2.743) using the mean and the standard deviation for the all the variables, and this confirms that the values of the calculated level of significance for the research variables (0.071) was greater than the default value of the study's level of significance which is (0.05), indicating that the current research data takes the form of the required normal distribution, and this result enables us to use the parametric tests to test the research hypothesis.

Table (3) The Normality Test

Questionnaire	K – S Statistic Or Calculated (Z)	Mean	STD	Tabulated (Z)	Sig.
Total Indicator	0.107	2.075	0.406	2.743	0.071

4. Variables Descriptive: The research variables can be described according to the following:

4.1. Question 1 description: It is clear from the results in the table (4) that the percentage of the answer yes to the content of the Phrase X1 was (36.9%), while the percentage of the answer without was equal to (60%), and it was also found that the percentage of individuals who did not respond to this Phrase was (3.1%), this results came with a mean of (1.62) and standard deviation with (0.490), So we can conclude that the majority of the sample individuals do not have any knowledge of the advantages of the cloud accounting system, which amounted to (60%) of the sample size.

Table (4) Question 1 description

Item	Yes %	No %	Missing Value %	Mean	Std.
X1	36.9	60	3.1	1.62	0.490

The number of those who have knowledge of cloud accounting was (24) of the sample, while (39) did not have any knowledge about this system, while the number of those who had no answer reached (2) from the sample.

4.2. The General Obstacles description: The results in table (5) of general obstacles to implementing the cloud accounting indicate the following:

4.2.1. The agreement percentage (Strongly Agree & Agree) on the content of X2 was (77%), On the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (9.2%), while the percentage of the neutral was equal to (13.8%), and it was also found that the percentage of individuals who did not respond to this Phrase was (0%), this results came with a mean of (3.83) and standard deviation with (0.802), Thus, we can conclude from the high agreement percentage that the lack of privacy in business data is one of the factors that prevent the implementation of cloud accounting system.

The sample responses to the contents of X2 were distributed according to the scale was (0) strongly disagree, (6) disagree, (9) neutral, (40) agree, and (10) strongly agree of the sample, while the number of those who had no answer reached (0) from the sample.

4.2.2. The agreement percentage (Strongly Agree & Agree) on the content of X3 was (69.2%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (15.4%), while the percentage of the neutral was equal to (15.4%), and it was also found that the percentage of individuals who did not respond to this Phrase was (0%), this results came with a mean of (3.66) and standard deviation with (0.889), Thus, we can conclude from the high agreement percentage that the downtime of the service from the provider's side is one of the factors that prevent the implementation of cloud accounting system.

The sample responses to the contents of X3 were distributed according to the scale was (0) strongly disagree, (10) disagree, (10) neutral, (37) agree, and (8) Strongly agree of the sample, while the number of those who had no answer reached (0) from the sample.

4.2.3. The agreement percentage (Strongly Agree & Agree) on the content of X4 was (73.9%), On the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (12.3%), while the percentage of the neutral was equal to (13.8%), and it was also found that the percentage of individuals who did not respond to this Phrase was (0%), this results came with a mean of (3.86) and standard deviation with (1.029), Thus, we can conclude from the high agreement percentage that the downtime of the service from the provider's side is one of the factors that prevent the implementation of the cloud accounting system.

The sample responses to the contents of X4 were distributed according to the scale was (2) strongly disagree, (6) disagree, (9) neutral, (30) agree, and (18) Strongly agree of the sample, while the number of those who had no answer reached (0) from the sample.

4.2.4. The agreement percentage (Strongly Agree & Agree) on the content of X5 was (63.2%), On the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (13.8%), while the percentage of the neutral was equal to (21.5%), and it was also found that the percentage of individuals who did not respond to this Phrase was (1.5%), this results came with a mean of (3.69) and standard deviation with (0.990), Thus, we can conclude from the high agreement percentage that the system was produced only for small businesses is one of the factors that prevent the implementation of the cloud accounting system.

The sample responses to the contents of X5 were distributed according to the scale was (1) strongly disagree, (8) disagree, (14) neutral, (28) agree, and (13) Strongly agree of the sample, while the number of those who had no answer reached (1) from the sample.

4.2.5. The agreement percentage (Strongly Agree & Agree) on the content of X6 was (52.3%), On the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (16.9%), while the percentage of the neutral was equal to (29.3%), and it was also found that the percentage of individuals who did not respond to this Phrase was (1.5%), this results came with a mean of (3.48) and standard deviation with (1.023), Thus, we can conclude from the high agreement percentage that the

system of cloud accounting does not include the features for specific industries is one of the factors that prevent the implementation of the cloud accounting.

The sample responses to the contents of X6 were distributed according to the scale was (2) strongly disagree, (9) disagree, (19) neutral, (24) agree, and (10) Strongly agree of the sample, while the number of those who had no answer reached (1) from the sample.

4.2.6. The agreement percentage (Strongly Agree & Agree) on the content of X7 was (60%), On the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (7.7%), while the percentage of the neutral was equal to (32.3%), and it was also found that the percentage of individuals who did not respond to this Phrase was (0%), this results came with a mean of (3.65) and standard deviation with (0.799), Thus, we can conclude from the high agreement percentage that the lack of audit trial in some of the cases is one of the factors that prevent the implementation of the cloud accounting system.

That the sample responses to the contents of X7 were distributed according to the scale was (0) strongly disagree, (5) disagree, (21) neutral, (31) agree, and (8) Strongly agree of the sample, while the number of those who had no answer reached (0) from the sample.

4.2.7. The agreement percentage (Strongly Agree & Agree) on the content of X8 was (64.6%), On the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (10.8%), while the percentage of the neutral was equal to (23.1%), and it was also found that the percentage of individuals who did not respond to this Phrase was (1.5%), this results came with a mean of (3.70) and standard deviation with (0.867), Thus, we can conclude from the high agreement percentage that the data is vulnerable for theft is one of the factors that prevent the implementation of the cloud accounting system.

The sample responses to the contents of X8 were distributed according to the scale was (0) strongly disagree, (7) disagree, (15) neutral, (32) agree, and (10) Strongly agree of the sample, while the number of those who had no answer reached (1) from the sample.

4.2.8. The agreement percentage (Strongly Agree & Agree) on the content of X9 was (63.1%), On the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (16.9%), while the percentage of the neutral was equal to (20%), and it was also found that the percentage of individuals who did not respond to this Phrase was (0%), this results came with a mean of (3.63) and standard deviation with (0.961), Thus, we can conclude from the high agreement percentage that the cloud accounting system may be infected with viruses is one of the factors that prevent the implementation of the cloud accounting system.

The sample responses to the contents of X9 were distributed according to the scale was (0) strongly disagree, (11) disagree, (13) neutral, (30) agree, and (11) Strongly agree of the sample, while the number of those who had no answer reached (0) from the sample.

4.2.9. The agreement percentage (Strongly Agree & Agree) on the content of X10 was (64.6%), On the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (15.4%), while the percentage of the neutral was equal to (18.5%), and it was also found that the percentage of individuals who did not respond to this Phrase was (1.5%), this results came with a mean of (3.63) and standard deviation with (0.900), Thus, we can conclude from the high agreement percentage that the data is vulnerable for loss is one of the factors that prevent the implementation of the cloud accounting system.

The sample responses to the contents of X10 were distributed according to the scale was (0) strongly disagree, (12) disagree, (12) neutral, (34) agree, and (8) Strongly agree of the sample, while the number of those who had no answer reached (1) from the sample.

4.2.10. The agreement percentage (Strongly Agree & Agree) on the content of X11 was (73.8%), On the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (9.2%), while the percentage of the neutral was equal to (16.9%), and it was also found that the percentage of individuals who did not respond to this Phrase was (1.5%), this results came with a mean of (3.86) and standard deviation with (0.864), Thus, we can conclude from the high agreement percentage that the

possibility of access denial is one of the factors that prevent the implementation of the cloud accounting system.

The sample responses to the contents of X11 were distributed according to the scale was (0) strongly disagree, (6) disagree, (11) neutral, (34) agree, and (14) Strongly agree of the sample, while the number of those who had no answer reached (0) from the sample.

4.2.11. The agreement percentage (Strongly Agree & Agree) on the content of X12 was (66.1%), On the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (9.2%), while the percentage of the neutral was equal to (23.1%), and it was also found that the percentage of individuals who did not respond to this Phrase was (1.5%), this results came with a mean of (3.75) and standard deviation with (0.854), Thus, we can conclude from the high agreement percentage that the doubts about security on user level which came from using multi access points is one of the factors that prevents the implementation of the cloud accounting system.

The sample responses to the contents of X12 were distributed according to the scale was (0) strongly disagree, (6) disagree, (15) neutral, (32) agree, and (11) Strongly agree of the sample, while the number of those who had no answer reached (1) from the sample.

4.2.12. From the indicator values in table (5) the agreement percentage on the contents of all questionnaire phrases (section 1) was (66.2%), on the other hand, the percentage of disagreement reached (12.4%), while the percentage of the neutral was equal to (20.7%), and it was also found that the percentage of individuals who did not respond to this Phrase was (1%), these results came with a mean of (3.70) and standard deviation with (0.907). So, the conclusion from these results indicates that the general obstacles in which the current research adopted do constitute a burden for applying the cloud accounting system.

Table (5) General Obstacles description

Item	Disagree %	Strongly Disagree %	Neutral %	Strongly agree %	Agree %	Missing Value %	Mean	Std.
X2	0	9.2	13.8	61.6	15.4	0	3.83	.802
X3	0	15.4	15.4	56.9	12.3	0	3.66	.889

X4	3.1	9.2	13.8	46.2	27.7	0	3.86	1.029
X5	1.5	12.3	21.5	43.1	20.1	1.5	3.69	.990
X6	3.1	13.8	29.3	36.9	15.4	1.5	3.48	1.023
X7	0	7.7	32.3	47.7	12.3	0	3.65	.799
X8	0	10.8	23.1	49.2	15.4	1.5	3.70	.867
X9	0	16.9	20	46.2	16.9	0	3.63	.961
X10	0	15.4	18.5	52.3	12.3	1.5	3.63	.900
X11	0	9.2	16.9	52.3	21.5	0	3.86	.864
X12	0	9.2	23.1	49.2	16.9	1.5	3.75	.854
Average	0.7	11.7	20.7	49.3	16.9	0.7	3.70	0.907
Indicator	12.4		20.7	66.2		0.7	3.70	0.907

4.3. The Obstacles in Kurdistan description: The results in table (6) of obstacles to implement cloud accounting system in Kurdistan indicate the following:

4.3.1. The agreement percentage (Strongly Agree & Agree) on the content of X13 was (81.6%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (4.6%), while the percentage of the neutral was equal to (9.2%), and it was also found that the percentage of individuals who did not respond to this Phrase was (4.6%), this results came with a mean of (4.31) and standard deviation with (0.898), Thus, we can conclude from the high agreement percentage that online accounting is not available in the local language (Kurdish or Arabic). So, this represents one of the factors that impede the application of the cloud accounting system in the region.

The sample responses to the contents of X13 were distributed according to the scale was (1) strongly disagree, (2) disagree, (6) neutral, (21) agree, and (32) Strongly agree of the sample, while the number of those who had no answer reached (3) from the sample.

4.3.2. The agreement percentage (Strongly Agree & Agree) on the content of X14 was (86.1%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (3.1%), while the percentage of the neutral was equal to (6.2%), and it was also found that the percentage of individuals who did not respond to this Phrase was (4.6%), this results came with a mean of (4.23) and standard deviation with (0.711), Thus, we can conclude from the high agreement percentage that lack of

knowledge of accounting software by the accountants in Kurdistan represents one of the factors that impede the application of the cloud accounting system in the region. The sample responses to the contents of X14 were distributed according to the scale was (0) strongly disagree, (2) disagree, (4) neutral, (34) agree, and (22) Strongly agree of the sample, while the number of those who had no answer reached (3) from the sample.

4.3.3. The agreement percentage (Strongly Agree & Agree) on the content of X15 was (86.2%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (1.5%), while the percentage of the neutral was equal to (6.1%), and it was also found that the percentage of individuals who did not respond to this Phrase was (6.2%), this results came with a mean of (4.36) and standard deviation with (0.684), Thus, we can conclude from the high agreement percentage that the training courses of cloud accounting are not available in Kurdistan represents one of the factors that impede the application of the cloud accounting system in the region. The sample responses to the contents of X15 were distributed according to the scale was (0) strongly disagree, (1) disagree, (4) neutral, (28) agree, and (28) Strongly agree of the sample, while the number of those who had no answer reached (4) from the sample.

4.3.4. The agreement percentage (Strongly Agree & Agree) on the content of X16 was (84.6%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (3.1%), while the percentage of the neutral was equal to (7.7%), and it was also found that the percentage of individuals who did not respond to this Phrase was (4.6%), this results came with a mean of (4.35) and standard deviation with (0.770), Thus, we can conclude from the high agreement percentage that the curriculum in universities does not contain teaching cloud accounting system represents one of the factors that impede the application of the cloud accounting system in the region.

The sample responses to the contents of X16 were distributed according to the scale was (0) strongly disagree, (2) disagree, (5) neutral, (24) agree, and (31) Strongly agree of the sample, while the number of those who had no answer reached (3) from the sample.

4.3.5. The agreement percentage (Strongly Agree & Agree) on the content of X17 was (80%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (4.6%), while the percentage of the neutral was equal to (9.2%), and it was also found that the percentage of individuals who did not respond to this Phrase was (6.2%), this results came with a mean of (4.10) and standard deviation with (0.831), Thus, we can conclude from the high agreement percentage that the experts are not available to convert the present system represents one of the factors that impede the application of the that system in the region.

The sample responses to the contents of X17 were distributed according to the scale was (1) strongly disagree, (2) disagree, (6) neutral, (33) agree, and (19) Strongly agree of the sample, while the number of those who had no answer reached (4) from the sample.

4.3.6. The agreement percentage (Strongly Agree & Agree) on the content of X18 was (83.9%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (10.7%), while the percentage of the neutral was equal to (10.8%), and it was also found that the percentage of individuals who did not respond to this Phrase was (4.6%), this results came with a mean of (4.05) and standard deviation with (1.031), Thus, we can conclude from the high agreement percentage that the quality of internet service in Kurdistan Region is not good represents one of the factors that impede the application of the that system in the region.

The sample responses to the contents of X18 were distributed according to the scale was (1) strongly disagree, (6) disagree, (7) neutral, (23) agree, and (25) Strongly agree of the sample, while the number of those who had no answer reached (3) from the sample.

4.3.7. The agreement percentage (Strongly Agree & Agree) on the content of X19 was (80%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (3.1%), while the percentage of the neutral was equal to (12.3%), and it was also found that the percentage of individuals who did not respond to this Phrase was (4.6%), this results came with a mean of (4.19) and standard deviation with (0.786), Thus, we can conclude from the high agreement percentage that the

resistance to change the present system by accountants represents one of the factors that impede the application of the that system in the region.

The sample responses to the contents of X19 were distributed according to the scale was (0) strongly disagree, (2) disagree, (8) neutral, (28) agree, and (24) Strongly agree of the sample, while the number of those who had no answer reached (3) from the sample.

4.3.8. The agreement percentage (Strongly Agree & Agree) on the content of X20 was (77%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (1.5%), while the percentage of the neutral was equal to (16.9%), and it was also found that the percentage of individuals who did not respond to this Phrase was (4.6%), this results came with a mean of (4.11) and standard deviation with (0.749), Thus, we can conclude from the high agreement percentage that the managers or business owners don't know the benefits of cloud accounting represents one of the factors that impede the application of the that system in the region.

The sample responses to the contents of X20 were distributed according to the scale was (0) strongly disagree, (1) disagree, (11) neutral, (30) agree, and (20) Strongly agree of the sample, while the number of those who had no answer reached (3) from the sample.

4.3.9. The agreement percentage (Strongly Agree & Agree) on the content of X21 was (69.3%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (13.8%), while the percentage of the neutral was equal to (12.3%), and it was also found that the percentage of individuals who did not respond to this Phrase was (4.6%), this results came with a mean of (3.90) and standard deviation with (1.067), Thus, we can conclude from the high agreement percentage that the difficulties to pay the monthly service fee online represents one of the factors that impede the application of the cloud accounting system in the region.

The sample responses to the contents of X21 were distributed according to the scale was (1) strongly disagree, (8) disagree, (8) neutral, (24) agree, and (21) Strongly agree of the sample, while the number of those who had no answer reached (3) from the sample.

4.3.10. The agreement percentage (Strongly Agree & Agree) on the content of X22 was (62.3%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (13.9%), while the percentage of the neutral was equal to (29.2%), and it was also found that the percentage of individuals who did not respond to this Phrase was (4.6%), this results came with a mean of (3.53) and standard deviation with (0.900), Thus, we can conclude from the high agreement percentage that the internet services are very expensive for some businesses represents one of the factors that impede the application of the cloud accounting system in the region. The sample responses to the contents of X22 were distributed according to the scale was (0) strongly disagree, (9) disagree, (19) neutral, (26) agree, and (8) Strongly agree of the sample, while the number of those who had no answer reached (3) from the sample.

4.3.11. The agreement percentage (Strongly Agree & Agree) on the content of X23 was (73.8%), on the other hand, the percentage of disagreement (Strongly Disagree & Disagree) reached (13.9%), while the percentage of the neutral was equal to (29.2%), and it was also found that the percentage of individuals who did not respond to this Phrase was (4.6%), this results came with a mean of (3.53) and standard deviation with (0.900), Thus, we can conclude from the high agreement percentage that the difficulties of integrating between the online accounting and the local software represents one of the factors that impede the application of the cloud accounting system in the region.

The sample responses to the contents of X23 were distributed according to the scale was (0) strongly disagree, (2) disagree, (12) neutral, (29) agree, and (19) Strongly agree of the sample, while the number of those who had no answer reached (3) from the sample.

4.3.12. From the indicator values in table (6) the agreement percentage on the contents of all questionnaire phrases (section 2) was (12.4%), on the other hand, the percentage of disagreement reached (76.8%), while the percentage of the neutral was equal to (5.7%), and it was also found that the percentage of individuals who did not respond to this Phrase was (4.9%), these results came with a mean of (4.11) and standard deviation with (0.839). So, the conclusion from these results indicates that

the obstacles in Kurdistan in which the current research adopted do constitute a burden for applying the cloud accounting system.

Table (6) Obstacles in Kurdistan description

Item	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly agree %	Missing Value %	Mean	Std.
X13	1.5	3.1	9.2	32.3	49.3	4.6	4.31	.898
X14	0	3.1	6.2	52.3	33.8	4.6	4.23	.711
X15	0	1.5	6.1	43.1	43.1	6.2	4.36	.684
X16	0	3.1	7.7	36.9	47.7	4.6	4.35	.770
X17	1.5	3.1	9.2	50.8	29.2	6.2	4.10	.831
X18	1.5	9.2	10.8	35.4	38.5	4.6	4.05	1.031
X19	0	3.1	12.3	43.1	36.9	4.6	4.19	.786
X20	0	1.5	16.9	46.2	30.8	4.6	4.11	.749
X21	1.5	12.3	12.3	36.9	32.4	4.6	3.90	1.067
X22	0	13.9	29.2	40.0	12.3	4.6	3.53	.900
X23	0	3.1	18.5	44.6	29.2	4.6	4.05	.798
Average	0.5	5.2	12.6	42.0	34.8	4.9	4.11	0.839
Indicator	5.7		12.6	76.8		4.9	4.11	0.839

5. The Importance Level of the Variables:

To identify the level of the importance of the study variables according to the views of the sample the researcher conducts one sample (t) test with test value equal to (3) which represents the boundary between the percentages of agreement and disagreement so the results in table (7) indicate the following:

5.1. The t-test value for the X1 phrase was (11.139) which is the Largest than the (T) tabulated value (1.669), this result confirmed with a p-value (0.000) which is less than the default level of the study (0.05).

5.2. The t-test value for general obstacles (phrases from X2 to X12) was (11.114) which is the Largest than the (T) tabulated value (1.669), this result confirmed with a p-value (0.000) which is less than the default level of the study (0.05). Also, from comparing the results of the (t) test for the phrases of this variable we can see that the phrase (X2) came with a high level of importance than other phrases according to its highest (t) value (8.354), while the phrase (X6) came with the lowest level of importance with (t) value (3.786). So, we can conclude that the lack of privacy for business data is the most important general obstacle that the sample indicates. While the system obstacle

that does not include features for specific industries has the lowest importance according to the sample views.

5.3. The t-test value for obstacles in Kurdistan Region (phrases from X13 to X23) was (20.199) which is the Largest than the (T) tabulated value (1.669), this result confirmed with a p-value (0.000) which is less than the default level of the study (0.05). Also, from comparing the results of the (t) test for the phrases of this variable we can see that the phrase (X15) came with a high level of importance than other phrases according to its highest (t) value (15.538), while the phrase (X22) came with the lowest level of importance with (t) value (4.655). So, we can conclude that the training courses of cloud accounting system are not available in Kurdistan is the most important obstacle that the sample indicates. While the system obstacle that the internet services are very expensive for some businesses has the lowest importance according to the sample views.

5.4. According to the views of the sample, it is clear that the obstacles in Kurdistan Region for applying the cloud accounting system are more important than the general obstacles. So, if we intend to apply the cloud accounting system, we must overcome the obstacles in Kurdistan Region first and then give attention to the general obstacles.

Table (7) The Variables Importance

Phrases	t	df	p-value	Sig.	Phrases	t	df	p-value
x1	11.139	64	.000	.000	x13	11.457	61	.000
x2	8.354	64	.000	.000	x14	13.575	61	.000
x3	6.001	64	.000	.000	x15	15.538	60	.000
x4	6.751	64	.000	.000	x16	13.849	61	.000
x5	5.555	63	.000	.000	x17	10.326	60	.000
x6	3.786	63	.000	.000	x18	8.006	61	.000
x7	6.520	64	.000	.000	x19	11.958	61	.000
x8	6.488	63	.000	.000	x20	11.702	61	.000
x9	5.290	64	.000	.000	x21	6.667	61	.000
x10	5.557	63	.000	.000	x22	4.655	61	.000
x11	8.041	64	.000	.000	x23	10.343	61	.000
x12	7.022	63	.000	.000	Kurdistan Ob.	20.199	62	.000
General Ob.	11.114	64	-	.000	-	-	-	-

Based on the results of the previous analysis, it can be said that we reject the research hypothesis, which states that there are no obstacles that face the accountants when using cloud accounting system in Kurdistan region, and accept the alternative hypothesis, which states that there are many obstacles that face the accountants when using cloud accounting system in Kurdistan region.

6. Conclusions:

6.1. The research found that the levels of knowledge of the cloud accounting system among professionals in the region were weak and did not rise to the levels of the importance of applying this system by the accountants in the region.

6.2. The reason behind the weak level of knowing the system is that the sample do not have any knowledge of the service.

6.3. All the phrases in the questionnaire that the research adopted represent obstacles toward applying the cloud accounting system in Kurdistan Region but in different levels of difficulty.

6.4. The lack of privacy for business data is the most important general obstacle that the sample indicates. While the system obstacle that does not include features for specific industries has the lowest importance according to the sample views.

6.5. The training courses of cloud accounting system are not available in Kurdistan is the most important obstacle that the sample indicates. While the system obstacle that the internet services are very expensive for some businesses has the lowest importance according to the sample views.

6.6. The obstacles in Kurdistan Region for applying the cloud accounting system are more important than the general obstacles. So, if we intend to apply the cloud accounting system, we must overcome the obstacles in Kurdistan Region first and then give attention to the general obstacles.

6.7 Not providing the service in local language is one of the obstacles that faces the accountant to use the cloud accounting.

6.8 The academic institutions do not provide courses and do not teach the cloud accounting systems to their students especially the students of the accounting department.

6.9 The other major obstacles are that less experts in cloud accounting are available in Kurdistan Region and they do not fill the need.

6.10 The owner and the managers of the companies are not familiar with cloud accounting and the do not know the advantages of this service.

6.11 Many companies in Kurdistan region use computer systems to manage the inventory and other accounts but they face the issue of integrating these systems with cloud accounting.

7. Recommendations:

7.1. The need for awareness among specialists and professionals in the fields of accounting, as well as business companies, of the importance of applying and working with a cloud accounting system in the region, similar to developed countries in this field, as this is one of the requirements of development in accounting work.

7.2. The academic institutions work to include the vocabulary of their syllabuses with a specialized material that is concerned with introducing the cloud accounting system and procedures applied in workers' companies to students.

7.3. The government in the region must work to provide the latest communication technologies necessary to facilitate the benefits from the advantages of the system by improving the Internet and moving to the new generations in operating the Internet.

7.4. Providing software that helps system users in the region to operate the system, take advantage of its advantages and apply it at the best levels of efficiency.

7.5. Prepare and provide training courses and training workshops that help develop the skills of accountants and those in charge of operating the system and its application by academic institutions and professional unions.

7.6. Preparing the necessary technical staff, whether in the field of information technology or in the field of accounting specialization, that capable of working with the system and advancing the levels of its application.

7.7 The issue of not providing the service in local language should be addressed to service provider companies and try to avail cloud accounting services in local languages.

7.8 The academic institutions should provide courses and teach cloud accounting systems to their students of the accounting department.

7.9 Provide workshops and seminars to the owners and managers of companies and

7.10 The regional government should provide support, facilitate procedures encourage using the system, and issue the necessary legislation for that.

7.11 The service provider companies should be consulted on how to integrate the local software with cloud accounting services.

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بەربەستەکانی بەکارهێنانی سیستمی ژمیریاری هه‌ور له هه‌ریمی کوردستانی عیراق
 له‌م ماوه‌ی دواییدا سیستمی ژمیریاری هه‌ور (ژمیریاری سه‌ر ئینته‌رنیته‌) زۆر به‌ کار دێت له‌ بوا‌ری ژمیریاریدا به‌هۆی سو‌ده‌کانی ئەم سیستمه‌، بۆ نمونه‌ که‌م کردنه‌وه‌ی تیچوو‌وه‌ به‌ده‌سته‌یه‌نانی زانیاری دارایی له‌ کاتی گونجاو وه‌سو‌ده‌کانی تر. کۆمپانیایکانی کوردستان وه‌کو کۆمپانیایکانی تری جیهان ده‌ستیان کردوه‌ به‌ به‌کارهێنانی سیستمی ژمیریاری هه‌ور. گۆڕینی سیستمی ژمیریاری بۆ سیستمی ژمیریاری هه‌ور پو‌وبه‌پو‌وی هه‌ندی‌ک به‌ربه‌ست و گرت ده‌بێت هه‌روه‌کو هه‌ر گۆرانکاریه‌کی تر له‌ ناو کۆمپانیا.

ئامانجی سه‌ره‌کی له‌م تو‌یژینه‌وه‌یه‌ ئه‌وه‌یه‌ که‌ ده‌سته‌واژه‌ی ژمیریاری هه‌ور بنا‌سی‌نی و روون بکاته‌وه‌ وه‌ هه‌روه‌ها دیاری کردنی ئه‌و به‌ربه‌ستانه‌ی هه‌یه‌ که‌ پو‌وبه‌پو‌وی گۆڕینی سیستمی ژمیریاری ده‌بێت. هه‌روه‌ها پێش‌نیار کردنی هه‌ندی‌ک راو و بۆچون بۆ چاره‌سه‌رکردنی ئەم به‌ربه‌ستانه‌. له‌ ده‌رئه‌نجامدا ده‌رکه‌وت که‌وا به‌ربه‌ست و گرت زۆر هه‌یه‌ که‌ رێگری ده‌کهن له‌ پرۆسه‌ی به‌کارهێنانی سیستمی ژمیریاری هه‌ور

معوقات استخدام المحاسبة السحابية

في إقليم كردستان العراق

المخلص:

أن الاتجاه السائد في مجال المحاسبة مؤخرًا هو استخدام المحاسبة السحابية أو المحاسبة عبر الإنترنت ، لما لها من مزايا ، مثل تقليل التكلفة والحصول على المعلومات المالية في الوقت المناسب والمزايا الأخرى. بدأت الشركات العاملة في إقليم كردستان في الاقتداء بالشركات العالمية التي تعتمد على نظام المحاسبة السحابية. يواجه تغيير النظام المحاسبي إلى نظام محاسبة سحابي بعض الصعوبات والعقبات مثل أي تغييرات أخرى داخل الشركة. الهدف الرئيسي من هذا البحث هو التعرف على مفهوم المحاسبة السحابية وما إذا كانت هناك عقبات تواجه هذا التغيير في إقليم كردستان وطرح بعض الآراء حول كيفية التغلب على هذه العقبات. ووجد البحث أن هناك العديد من المعوقات التي تعيق عملية تطبيق واستخدام نظام المحاسبة السحابية في إقليم كردستان.

Questionnaire

No.	Questions	Yes	No		
1	Do you know the advantages of cloud accounting				
	1: The general obstacles to implement Cloud Accounting	Strongly Agree	Agree	Neutral	Disagree
				Disagree	Strongly Disagree

2	Lack of privacy for business data.					
3	Difficulties to transfer data to another service provider company					
4	Downtime of the service from the service provider company's side.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5	Produced only for small businesses					
6	Does not include features for specific industries.					
7	Lack of audit trial in some of cloud services					
8	The data is vulnerable for theft					
9	The Cloud Accounting System may be infected by viruses					
10	The data is vulnerable for loss					
11	There is possibility of access denial					
12	Security on user level because of using multi access points.					
	2: Obstacles to implement Cloud Accounting in Kurdistan	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13	Online Accounting is not available in local language (Kurdish or Arabic)					
14	Lack of knowledge of accounting software by the accountants.					
15	Training courses of cloud accounting are not available in Kurdistan					
16	Curriculum in universities does not contain cloud accounting courses					
17	Experts are not available to convert the present system.					
18	The quality of internet service in Kurdistan Region is not stable					
19	Resistance to change the present system by accountants					
20	Managers or business owners don't know the benefits of cloud accounting					
21	Difficulties to pay the monthly service fee online.					



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22	The internet services are very expensive for some businesses.					
23	Difficulties of integrating between the online accounting and the local software					